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FINAL
SITE INSPECTION PRIORITIZATION REPORT
COMMERCIAL ENVELOPE MFG. CO., INC.
DEER PARK, NEW YORK

CERCLIS ID No.: NYD981184138

Volume 1 of 2

16 September 1994

Work Order No.: 04200-022-081-0006

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Prepared by:

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GENERAL DESCRIPTION AND SITE HISTORY

The Commercial Envelope Mfg. Co., Inc. (hereafter referred to as CEM) site (CERCLIS ID No. NYD981184138) is located at 900 Grand Boulevard in the Village of Deer Park, Babylon, Suffolk County, New York (Ref. Nos. 1; 2; 10). CEM also operates under the name Business Envelope Manufacturers Inc. (Ref. Nos. 2; 20, p. 26). CEM is an active envelope printing and manufacturing facility which has been located at the 7-acre site since 1977. ELM Freight Handling/ELM Public Warehouse and Distributing operates a warehouse out of a separate building on site. Alwin Seal, Incorporated, a producer of door frames and steel fencing, operated at the site from 1973 until 1977 (Ref. Nos. 19, p. 78; 20, 202). The property is currently owned by MAS Boulevard Associates (Ref. No. 9). Numerous parties have held title to the site since 1977 (Ref. No. 20, pp. 201-203). The site is located in an area primarily occupied by light industrial and commercial businesses. CEM is located on the southern side of Grand Boulevard and is bordered to the south, west, and east by Burt Drive, Innovation, Inc., and Art Marlin, respectively (Ref. No. 2).

The Suffolk County Department of Health Services (SCDHS) has conducted numerous inspections at CEM since January 1981. The SCDHS investigated a spill of between 1,937 and 5,835 gallons of dark purple liquid which occurred on 15 January 1981 (Ref. No. 20, pp. 92-94). The affected area was reported to have been excavated to a depth of 3 feet below the ground surface by Art Weiner-Earth Moving on 27 February 1981 (Ref. No. 20, p. 97). Subsequent inspections at CEM revealed various spills and reports of colored liquids bubbling up through the ground surface (Ref. Nos. 3, p. 8; 5, p. 4; 19, pp. 101, 104; 20, p. 110).

CEM produces approximately 750 gallons of wastewater per day that contains inks, glues and solvents. CEM operates an on-site wastewater incinerator. Prior to incineration, wastewater is stored on site in a 2,000-gallon steel aboveground storage tank located within the main building until a sufficient quantity has been collected. This storage tank was installed in 1983 (Ref. Nos. 6; 19, pp. 14, 80; 21). Prior to the installation of the aboveground tank, wastewater had been collected in three underground storage tanks located east of the building on site. SCDHS and CEM signed an Order on Consent in October 1982 requiring CEM to cease their (unspecified) unpermitted discharge of toxic and hazardous substances and to test the three subsurface holding tanks for leaks (Ref. Nos. 19, p. 109; 20, pp. 211-215).

Subsequently, the SCDHS discovered that CEM was also discharging industrial wastewater into two subsurface leaching pools. On 9 July 1985, the Suffolk County District Attorney's Office of Special Investigation served a search warrant to CEM. The search, which was conducted with the SCDHS, uncovered a third leaching pool at the site (Ref. No. 20, pp. 100-102). An Order on Consent requiring CEM to properly dispose of liquid and sludge contained in the leaching pools was prepared by SCDHS on 12 November 1985; however, this order was not

signed (Ref. No. 20, pp. 217-221). On 30 January 1986, CEM pleaded guilty to one felony count of Unlawful Discharge of Hazardous Waste in the Second Degree and 100 violations of the Suffolk County Sanitary Code. As a condition of the plea offer, CEM agreed to sign an Order on Consent requiring them to conduct a field investigation and clean up the site (Ref. No. 20, p. 205). The three leaching pools were pumped out and filled with clean sand. The sludge removed from the leaching pools was reportedly disposed of at a licensed facility; the wastewater was incinerated. The wastes were removed from the underground storage tanks. The wastewater from the tanks was collected and stored on site in 180 55-gallon drums. The sludge from the underground storage tanks was reportedly disposed of at a treatment, storage and disposal facility. The underground storage tanks were then filled with concrete and abandoned in place (Ref. Nos. 6, pp. 30, 31; 19, pp. 4, 60, 61, 70; 20, pp. 103, 117). Additionally, there are two 10,000-gallon underground storage tanks containing fuel oil and gasoline at the site. Approximately 9,300 gallons of fuel oil were discharged into an on-site observation well in January 1986 (Ref. Nos. 19, pp. 18, 78, 109). Petroleum products are excluded under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); therefore, these two tanks and the fuel oil discharge will not be included in this evaluation.

Waste sources at CEM include the underground storage tanks, the subsurface leaching pools and an area of contaminated soil. The underground storage tanks were used to contain CEM's wastewater prior to incineration from 1977 until 1983. The three tanks have a combined capacity of 7,000 gallons (Ref. Nos. 19, p. 109; 20, p. 117). A representative of SCDHS reported the presence of blue and black deposits along a sidewall of the excavation during the tank abandonment (Ref. No. 20, p. 103). The blue and black deposits indicate a release from the source area. The leaching pools received wastewater from 1977 until 1985 (Ref. Nos. 19, p. 109; 20, pp. 100-102). The leaching pools were not lined or otherwise contained. The total volume deposited in the leaching pools is unknown; however, over 6,000 gallons of liquid and 2,255 gallons of sludge were reported to have been removed from the pools (Ref. Nos. 3, pp. 8, 9; 19; p. 69). Several volatile organic compounds and metals have been detected in CEM's wastewater (Ref. Nos. 3; 5, pp. 4, 5; 6, p. 7; 19, pp. 90, 93; 20, pp. 121, 122). Various areas of documented contaminated soil were paved over prior to July 1987 (Ref. No. 20, p. 83). A surficial soil sample collected in the vicinity of a solvent storage shed revealed the presence of contaminants (Ref. No. 20, pp. 74, 78, 79, 124-130). The area associated with the contaminated soil was not delineated; however, for the purposes of this assessment, the area is considered to be 1 square foot. Solvents, glue, and alcohols are stored in a storage shed on site. A stained area located south of the storage shed and liquid present in the bottom of the storage shed were noted on 15 July 1987. The capacity of the storage shed is not known; therefore, for the purposes of this assessment, at least one 55-gallon drum is considered to be present in the shed (Ref. No. 20, p. 74).

Numerous sampling events have been conducted at the CEM site between January 1981 and October 1988. Table 1 presents a summary of the sampling events and Tables 2 and 3 present a summary of the analytical data collected during the sampling events. Eder Associates, H2M and Geraghty & Miller have been hired independently as environmental consultants by CEM. EM Science and Technology prepared a Phase I Investigation Report on CEM for the NYSDEC/Division of Solid and Hazardous Waste (DSHW) in June 1987 (Ref. No. 19). NUS Corporation completed a Site Inspection Report for the U.S. Environmental Protection Agency (EPA) in September 1990 (Ref. No. 20).

An off-site reconnaissance was conducted by Roy F. Weston, Inc. (WESTON®) on 19 April 1994. Currently, CEM is active, employing approximately 61 people. The areas overlying the underground storage tanks and leaching pools have been paved over. The site is not completely fenced and access to exterior areas is not limited (Ref. Nos. 2; 20, p. 90). No plans for additional cleanup actions are present in available background files.

EVALUATION OF EXISTING INFORMATION AND SITE INSPECTION REPORT

Existing information, primarily from the NYSDEC/DSHW Phase I Report, the NUS Corporation Site Inspection Report and supporting documentation were used to conduct an evaluation of the CEM site. Updated and additional data were collected to further evaluate the site to determine the need for remedial action under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The information used to evaluate the current site status includes groundwater user populations within a 4-mile radius of the site, wellhead protection area information, fishery and sensitive environment data within 15 miles downstream of the site, and 1990 census population data and sensitive environments within 4 miles of the site.

HAZARD ASSESSMENT

Groundwater Migration Pathway - An observed release of hazardous substances from the CEM site to groundwater has been documented. Three shallow monitoring wells, screened at depths ranging from 30 to 34.2 feet below ground surface, have been installed to monitor groundwater conditions at the site. Groundwater samples have been collected during four sampling events conducted between February 1986 and June 1988. Dichloroethylene, trichloroethylene and tetrachloroethylene were detected in groundwater samples collected by Geraghty & Miller on 29 June 1988 from downgradient monitoring well DP-2 at concentrations greater than three times their respective upgradient concentrations (Ref. No. 4). Tetrachloroethylene was detected in groundwater collected by Geraghty & Miller on 27 February 1987 at a concentration five times the upgradient concentration (Ref. No. 20, pp. 65, 66). Groundwater samples collected from the downgradient monitoring wells in February 1986 and July 1987 indicate the presence of

TABLE 1

SUMMARY OF SAMPLING EVENTS CONDUCTED AT THE COMMERCIAL ENVELOPE MFG. CO., INC. SITE

Sampling Date	No. of Samples Collected	Matrix	Source	Analyses	Sampler	Laboratory	Quality Assurance/ Quality Control	Reference Numbers
1/15/81	1	Aqueous	Spill	Cd, Cu, Cr, Cr^{+6}, Pb, Ag, Zn	SCDHS	SCHSL	Unknown	20, p. 122
4/29/83	1	Aqueous	UST Puddle	Volatile halogenated organics	SCDHS	H2M Corp.	Unknown	3
8/29/84	1	Aqueous	Loading Dock Storm Drain	VOCs	SCDHS	SCDHS/PHL	COC	20, p. 121
9/19/84	2	Aqueous	Bubbling Pool	VOCs	SCDHS	SCDHS/PHL	COC	19, pp. 90-93
	1	Aqueous	Bubbling Pool	Cd, Cu, Cr, Cr^{+6}, Fe, Pb, Ag, Zn, Ni	SCDHS	SCHSL	COC	19, pp. 90-93
	1	Aqueous	Loading Dock Spill	Cd, Cu, Cr, Cr^{+6}, Fe, Pb, Ag, Zn, Ni	SCDHS	SCHSL	COC	19, pp. 90-93
10/24/84	1	Aqueous	Ground Discharge	VOCs	SCDHS	SCDHS/PHL	COC	5, pp. 4, 5
12/4/84	5	Aqueous	Wastewater	Cd, Cu, Cr, Fe, Pb, Ni, Ag	H2M	H2M	Unknown	6, pp. 7, 8
2/8/85	1	Aqueous	Wastewater	Cd, Cu, Cr, Fe, Pb, Ag, Zn, Phenols	H2M	H2M	Unknown	6, p. 9
2/11/85	1	Aqueous	Wastewater	Cd, Cu, Cr, Fe, Pb, Ag, Zn	H2M	H2M	Unknown	6, p. 10
2/15/85	1	Aqueous	Wastewater	Cd, Cu, Cr, Fe, Pb, Ag, Zn	H2M	H2M	Unknown	6, p. 11

TABLE 1 (CONTINUED)

SUMMARY OF SAMPLING EVENTS CONDUCTED AT THE COMMERCIAL ENVELOPE MFG. CO., INC. SITE

Sampling Date	No. of Samples Collected	Matrix	Source	Analyses	Sampler	Laboratory	Quality Assurance/ Quality Control	Reference Numbers
7/9/85	1	Aqueous	Leaching Pool	VOCs	SCDHS	SCDHS/PHL	COC	19, pp. 97-100
	1	Sludge	Loading Dock	VOCs	SCDHS	SCDHS/PHL	COC	19, pp. 97-100
	1	Aqueous	Leaching Pool	Cd, Cu, Cr, Cr^{+6}, Fe, Pb, Ni, Ag, Zn	SCDHS	SCDHS	COC	19, pp. 97-100
	1 1	Sludge Aqueous	Loading Dock	Cd, Cu, Cr, Cr^{+6}, Fe, Pb, Ni, Ag, Zn	SCDHS	SCDHS	COC	19, pp. 97-100
2/6/86	2	Groundwater	NA	VOCs, Metals	Geraghty & Miller	Ecotest Labs, Inc.	Unknown	20, pp. 63, 64
2/27/86	3	Solid	UST, Clinkers, Bubbling Pool	Cd, Cu, Cr, Pb, Ni, Ag, Zn	SCDHS	SCHSL	COC	19, pp. 71-76
	2	Aqueous	UST	Cd, Cu, Cr, Pb, Ni, Ag, Zn	SCDHS	SCHSL	COC	19, pp. 71-76
	1	Aqueous	UST	VOCs	SCDHS	SCHSL/PHL	COC	19, pp. 71-76
3/20/86	3	Solid/Soil	UST	RCRA Characteristics, Organics	Eder Associates	Nytest	COC	6, pp. 16-28
	3	Aqueous	Wastewater	RCRA Characteristics, Organics	Eder Associates	Nytest	COC	6, pp. 16-28
2/27/87	2	Groundwater	NA	VOCs, Metals	Geraghty & Miller	Ecotest Labs, Inc.	Unknown	20, pp. 65, 66

TABLE 1 (CONTINUED)

SUMMARY OF SAMPLING EVENTS CONDUCTED AT THE COMMERCIAL ENVELOPE MFG. CO., INC. SITE

Sampling Date	No. of Samples Collected	Matrix	Source	Analyses	Sampler	Laboratory	Quality Assurance/ Quality Control	Reference Numbers
7/13/87	2	Soil	Solvent Shed	TCL Parameters (Organics)	NUS Corporation	Nanco	CLP Protocols	20, pp. 3, 131-196
	3	Groundwater	NA	TCL Parameters (Organics)	NUS Corporation	Nanco	CLP Protocols	20, pp. 3, 131-196
	2	Soil	Solvent Shed	TCL Parameters (Inorganics)	NUS Corporation	Chemtech	CLP Protocols	20, pp. 3, 131-196
	3	Groundwater	NA	TCL Parameters (Inorganics)	NUS Corporation	Chemtech	CLP Protocols	20, pp. 3, 131-196
9/11/87	1	Aqueous	Waste	Metals, RCRA Characteristics	Chem. Mgt. Inc.	Ecotest Labs, Inc.	Unknown	5, pp. 6, 7
6/29/88	3	Groundwater	NA	VOCs, Metals	Geraghty & Miller	Ecotest Labs, Inc.	Unknown	4, pp. 7-9
8/31/88	5	Aqueous	Ink Waste	EP Toxicity Metals	CEM	Ecotest Labs, Inc.	Unknown	5, pp. 9-13
9/13/88	4	Aqueous	Drum Composite	EP Toxicity Metals	CEM	Ecotest Labs, Inc.	Unknown	5, pp. 14-17
10/4/88	1	Aqueous	Drum Composite	EP Toxicity Metals	CEM	Ecotest Labs, Inc.	Unknown	5, p. 18

Notes: Analytes are represented by their respective symbols (Cd = cadmium, Cu = copper, Cr = chromium, Cr^{+6} = hexavalent chromium, Fe = iron, Pb = lead, Ni = nickel, Ag = silver, and Zn = zinc).

- NA - Not applicable.
- SCDHS - Suffolk County Department of Health Services.
- SCHSL - Suffolk County Health Services Laboratory.
- SCDHS/PHL - Suffolk County Department of Health Services/Public Health Laboratory.
- VOCs - Volatile Organic Compounds
- COC - Chain of custody
- UST - Underground storage tank
- TCL - Target Compound List
- CLP - Contract Lab Program
- RCRA - Resource, Conservation and Recovery Act
- EP - Extraction Procedure

WESTON
MANAGERS DESIGNERS/CONSULTANTS

TABLE 2

SUMMARY OF THE HIGHEST CONCENTRATIONS OF SELECTED HAZARDOUS SUBSTANCES DETECTED IN WASTE SAMPLES COLLECTED AT COMMERCIAL ENVELOPE MFG. CO., INC. SITE

Hazardous Substance	Aqueous	Reference No.	Sludge/Solid	Reference No.
Organic Compounds	(ug/L)		(ug/kg)	
Methylene Chloride	2,500	3		
cis-Dichloroethylene	2,300	20, p. 121		
1,1,1-Trichloroethylene	150	19, p. 90		
1,1,2-Trichloroethane	520	20, p. 121		
Tetrachloroethylene	970	20, p. 121		
Benzene	11	20, p. 121		
m-Xylene/Chlorobenzene	640	3		
p-Xylene	73	3		
o-Xylene	330	3		
Ethylbenzene	260	3		
Styrene	49	20, p. 121	33	19, p. 100
1,2,4-Trimethylbenzene	190	19, p. 93		
Methyl isobutyl ketone	270	5, pp. 4, 5		
Toluene	690	19, p. 93		
Inorganic Contaminants	(mg/L)		(mg/kg)	
Cadmium			12	19, p. 73
Copper	32.9	6, p. 7	1,017	19, p. 73
Chromium	43	20, p. 122	74	19, p. 73
Iron	193	6, p. 8	7,700	19, p. 98
Lead	210	20, p. 122	166	19, p. 71
Nickel	0.6	19, p. 76	46	19, p. 73
Silver	4.0	6, p. 7	2.9	19, p. 98
Zinc	11	20, p. 122	170	19, p. 98

Notes:

Blank space - Contaminant was not analyzed for or not detected.
ug/L: - Micrograms per liter.
ug/kg: - Micrograms per kilogram.
mg/L: - Milligrams per liter.
mg/kg: - Milligrams per kilogram.

TABLE 3

SUMMARY OF THE SELECTED GROUNDWATER SAMPLING RESULTS FROM SAMPLING EVENTS CONDUCTED AT THE COMMERCIAL ENVELOPE MFG. CO., INC. SITE

(All results in ug/L)

Hazardous Substance	Downgradient	Upgradient	Detection Limit	Reference No.
1,2-Dichloroethylene	17	ND	2	4
Trichloroethylene	4	ND	1	4
Tetrachloroethylene	32	ND	1	4
Tetrachloroethylene	5	ND	1	19, pp. 71-76

Note:

ug/L - Micrograms per liter.
ND - Not Detected

various chlorinated hydrocarbons; however, no upgradient sample was collected in 1986 and the 1987 results do not meet observed release criteria (Ref. No. 20, pp. 63, 64, 124, 164-174).

The aquifer of concern is the Cretaceous age Magothy Formation. In the vicinity of the site, the Magothy is overlain by Quaternary age upper Pleistocene deposits which form the Upper Glacial Aquifer. The Upper Glacial Aquifer is composed of outwash deposits consisting of fine to very coarse quartzose sand and pebble- to boulder-sized gravel. The Upper Glacial Aquifer extends from land surface to a depth ranging from 104 to 138 feet below ground surface within 1 mile of the site. In July 1987, the depth to groundwater at the site ranged from 16 to 22.2 feet below ground surface. The hydraulic conductivity of the upper glacial aquifer ranges from 10^{-2} to 10^{-4} centimeters per second (cm/sec). The Magothy Formation is composed of grey, white, red, brown and yellow quartzose sand and gravel. Medium to fine sand is interbedded in this formation along with layers of coarse sand, sandy and solid clay. The Magothy Formation is up to 1,100 feet thick on Long Island. The log for a well located approximately 0.2 mile from the site indicates that the Magothy is 710 feet thick at that location. The hydraulic conductivity of the Magothy Formation ranges from 10^{-4} to 10^{-6} cm/sec. There is no confining unit separating the Upper Glacial and the Magothy aquifers in the vicinity of the site; therefore, these unconsolidated deposits are considered to act as a single hydrogeologic unit. Groundwater flow in the aquifers is generally toward the southeast (Ref. Nos. 12; 14).

Groundwater is the sole source of potable water on Long Island. Three public or municipal water systems supply water to businesses and residences located within 4 miles of the site. These water systems obtain water from the Magothy or the Magothy and Upper Glacial Aquifers. The nearest public/municipal supply well is located approximately 3,500 feet northeast of the site. Public/municipal wells located within a 4-mile radius of the site supply water to approximately 157,770 people (0-¼ mile: 0; ¼-½ mile: 0; ½-1 mile: 13,920; 1-2 miles: 27,840; 2-3 miles: 49,350; 3-4 miles: 66,660) (Ref. Nos. 10-12). NYSDEC has designated deep flow recharge areas for the Magothy and Lloyd aquifers and a fixed variable-shape zone around any public water supply well drawing from the Upper Glacial Aquifer as wellhead protection areas on Long Island. CEM does not overlie a deep flow recharge area. There are public/municipal supply wells drawing from the glacial aquifer within 4 miles of the site; therefore, designated wellhead protection areas are present within the target distance limit (Ref. No. 13).

Surface Water Migration Pathway - A release of contaminants to surface water is not observed or suspected. No surface water or sediment samples were collected in association with the CEM site. The nearest downslope surface water is Sampawams Creek, located approximately 1,800 feet southeast of the site. There are several storm drains situated along the overland migration route between the site and the creek; therefore, there is a low likelihood for a release of hazardous substances from the site to surface water, as these storm drains are reported to

discharge to the leaching pools. Sampawams Creek [average flow rate: 9.63 cubic feet per second (cfs)] flows approximately 5 miles toward the south-southwest, through several small lakes before discharging into Great South Bay at Babylon Cove. The 15-mile surface water migration pathway extends east to Nicoll Bay in Brookhaven, west to South Oyster Bay in Massapequa and south through Fire Island Inlet to the Atlantic Ocean. The southward migration pathway is limited by the presence of several coastal barrier islands including Fire Island. Drinking water on Long Island is obtained from groundwater wells; therefore, there are no drinking water intakes located within 15 miles downstream of the site.

Sampawams Creek contains fresh water from its headwaters to Route 27 (Sunrise Highway), a distance of approximately 2.8 miles. South of Route 27, Sampawams Creek is brackish to Montauk Highway, approximately 1.6 miles downstream. Sampawams Creek is saline south of Montauk Highway. Great South Bay, Nicoll Bay, South Oyster Bay, Fire Island Inlet and the Atlantic Ocean are saline coastal tidal waters. The fresh water portion of Sampawams Creek is a recreational fishery. The Atlantic Ocean and Great South Bay are commercial shellfisheries. Fire Island Inlet and South Oyster Bay are recreational fisheries. Approximately 2 miles of seasonally-flooded palustrine wetlands are located along Sampawams Creek. Approximately 85 miles of estaurine wetlands front the coastal tidal waters included in the 15-mile surface water migration pathway. Sampawams Creek, Great South Bay, and portions of the Atlantic Ocean have been designated by the NYSDEC for the maintenance of aquatic life and are therefore considered sensitive environments. Habitats for three State-listed endangered species and two State-listed threatened species have been identified along the coastal tidal waters associated with the site. Fire Island is a partially developed coastal barrier and a National Seashore Recreation Area, both of which are considered sensitive environments (Ref. Nos. 11; 15-17; 20, p. 223). The site is located outside the boundary of the 500-year floodplain (Ref. No. 20, pp. 226-228).

Soil Exposure Pathway - Soil contamination has been documented at the CEM site. Samples collected from spills and seeps on the ground by the SCDHS at the site document a release of contaminants to soil; however, the affected areas have since been paved over and are not accessible for direct contact. Tetrachloroethylene was detected in one surficial soil sample collected by NUS Corporation on 13 July 1987. The soil sample was collected at a depth of 0 to 6 inches below ground level proximal to the solvent shed and several empty drums. The area associated with the contaminated soil was not documented or described; therefore, for the purposes of this report, the area is estimated to be 1 square foot. NUS Corporation did not collect a background soil sample (Ref. Nos. 2; 20, pp. 3, 73, 79, 86, 90, 148). CEM is located amidst several light industrial and commercial enterprises. Based on the WESTON off-site reconnaissance conducted on 19 April 1994, there are at least 61 people currently employed at CEM (Ref. No. 2, pp. 4, 5). There are no residences, schools or day care centers within 200 feet of the site. The site is not fenced. There are no known terrestrial sensitive environments located within 200 feet of the site (Ref. No. 18).

Air Migration Pathway - A release of contaminants to air is not observed or suspected. CEM operates an on-site waste incinerator. Several complaints were lodged against CEM for odors; however, follow-up investigations by SCDHS and NYSDEC/Division of Air Resources did not substantiate the complaints (Ref. No. 8). No readings above background were detected in the ambient air during the NUS Corporation sampling event using an organic vapor analyzer (OVA) flame ionization detector or an HNu photoionization detector. NUS Corporation reported that readings above background were detected on the air monitoring instruments in the solvent storage shed (Ref. No. 22, pp. 73-84). CEM is not required to monitor the incinerator emissions and no report of any emissions testing was located in available background information. The site is active. An off-site reconnaissance conducted by WESTON on 19 April 1994 revealed the presence of 61 vehicles at the site; therefore, at least 61 people currently work at CEM (Ref. No. 2, p. 4). Approximately 197,870 people live within 4 miles of the site (0-¼ mile: 240; ¼-½ mile: 970; ½-1 mile: 7,570; 1-2 miles: 41,250; 2-3 miles: 61,850; 3-4 miles: 85,990) (Ref. No. 17). The habitats of two federal-listed endangered species, four State-listed endangered species, four State-listed threatened species and one species under review as to its federal status have been identified within 4 miles of the site (Ref. No. 18). There are approximately 381 acres of wetlands within 4 miles of the site. (0-¼ mile: 0; ¼-½ mile: 0; ½-1 mile: 0; 1-2 miles: 6; 2-3 miles: 156; 3-4 miles: 219) (Ref. No. 15).

SUMMARY

The existing information, data and additional information gathered were sufficient to evaluate the site. This assessment indicates that the site poses a threat to human health and the environment. A release of contaminants attributable to the site to the Upper Glacial Aquifer has been documented. The Upper Glacial Aquifer is hydraulically connected to the Magothy Formation. All potable water on Long Island is obtained from groundwater. Public and municipal water systems supply over 150,000 people with drinking water obtained from groundwater wells located within 4 miles of the site. The nearest potable water well is located approximately 3,500 feet northeast of the site. Surficial soil contamination has been documented; however, the unpaved area is relatively small. The site is active, and at least 61 people currently work at CEM. There are no residences, day care centers, or schools located within 200 feet of the site. There is no evidence which indicates that hazardous substances attributable to the site have migrated to the nearest downslope surface water body which is located approximately 1,800 feet from CEM. There are no known sensitive environments in the vicinity of the site and the underground storage tanks and leaching pools have been paved over, limiting the exposure via contact with the soil and air migration.

REFERENCES

1. U.S. Environmental Protection Agency (EPA) Superfund Program, Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS), List-4: Site Alias Location Listing, p. 330, 3 June 1994; and List-8: Site/Event Listing, p. 337, 6 June 1994.

2. Field Logbook for the Commercial Envelope Mfg. Co., Inc. site, Document Control No.: 4200-22-ADVT, Off-site Reconnaissance conducted by Roy F. Weston, Inc. (WESTON®) on 19 April 1994.

3. Project Note from D. D. Minsavage, WESTON, to Commercial Envelope Mfg. Co., Inc. file, Subject: Various Suffolk County Department of Health Services inspection reports, observations and analytical results, 27 June 1994; plus attachments.

4. Project Note from D. D. Minsavage, WESTON, to Commercial Envelope Mfg. Co., Inc. file, Subject: Assorted groundwater monitoring information, 27 June 1994; plus attachments.

5. Project Note from D. D. Minsavage, WESTON, to Commercial Envelope Mfg. Co., Inc. file, Subject: Assorted sampling results, 28 June 1994; plus attachments.

6. Project Note from D. D. Minsavage, WESTON, to Commercial Envelope Mfg. Co., Inc. file, Subject: CEM's incinerator, 28 June 1994; plus attachments.

7. Letter from Robert Seyfarth, Senior Public Health Sanitarian, County of Suffolk/Department of Health Services, to Mr. Joseph Guarino, Town of Babylon, 17 January 1991; plus attachment.

8. County of Suffolk Department of Health Services memorandum from Robert Seyfarth to Robert Capp, P.E., New York State Department of Environmental Conservation (NYSDEC)-Stony Brook, Subject: Commercial Envelope-Deer Park. 28 January 1993; plus attachments.

9. Phone Conversation Record: Conversation between Cindy, Tax Assessors Office, and Diane Donovan Minsavage, WESTON, 15 April 1994.

10. Four-Mile Vicinity Map for Commercial Envelope Mfg. Co., Inc. compiled from U.S. Department of the Interior, Geological Survey Topographic Maps, 7.5 minute series, Quadrangles of "Amityville, NY," 1969; "Bay Shore East, NY," 1967; "Bay Shore West, NY," 1969; "Central Islip, NY," 1967; "Greenlawn, NY," 1967; and "Huntington, NY," 1967, all photorevised 1979.

11. Project Note from D. D. Minsavage, WESTON, to Commercial Envelope Mfg. Co., Inc. file, Subject: Potable water sources within 4 miles of the site, 20 June 1994; plus attachments.

12. Project Note from D. D. Minsavage, WESTON, to Commercial Envelope Mfg. Co., Inc. file, Subject: Geology in the vicinity of the site, 23 June 1994; plus attachments.

13. Project Note from D. D. Minsavage, WESTON, to Commercial Envelope Mfg. Co., Inc. file, Subject: Wellhead protection areas located within 4 miles of the site, 24 June 1994; plus attachments.

14. Hazard Ranking System; Final Rule, 40 Code of Federal Regulations, Part 300, Federal Register, Volume 55, No. 241, p. 51601, 14 December 1990.

15. Fifteen-Mile Surface Water Migration Pathway Map for Commercial Envelope Mfg. Co., Inc. compiled from the U.S. Departmental of the Interior, Fish and Wildlife Services, National Wetland Inventory Maps, 7.5 minutes series, Quadrangles of: "Bay Shore East, NY"; "Bay Shore West, NY"; "Central Islip, NY"; "Greenlawn, NY"; and "Sayville, NY", all based on aerial photography April 1980; and "Amityville, NY"; "Huntington, NY"; and "West Gilgo Beach, NY", all based on aerial photography April 1981.

16. Project Note from D. D. Minsavage, WESTON, to Commercial Envelope Mfg. Co., Inc. file, Subject: Surface water pathway information, 24 June 1994; plus attachments.

17. Letter from Bob Frost, Frost Associates, to Jan Holderness, WESTON, Subject: Commercial Envelope Mfg. Co., 22 April 1994.

18. Project Note from D. D. Minsavage, WESTON, to Commercial Envelope Mfg. Co., Inc. file, Subject: Listed species habitats located within a 4-mile radius or 15 miles downstream of the site, 27 June 1994; plus attachment.

THE "ORIGINAL" COPY OF THIS REPORT IS IN THE SITE FILE
WHY DUPLICATE (?)

19. NYSDEC/Division of Solid and Hazardous Waste, Engineering Investigations at Inactive Hazardous Waste Sites in the State of New York, Phase I Investigation Report, Commercial Envelope Mfg. Co., Inc. (New York ID No. 152103), prepared by EA Science and Technology, June 1987. 360 PAGES

233 PAGES THE "ORIGINAL" COPY OF THIS REPORT IS IN THE SITE FILE

20. U.S. EPA, Final Draft Site Investigation Report, Commercial Envelope Mfg. Co., Inc., prepared by NUS Corporation, 21 September 1990. WHY DUPLICATE (?)

21. Letter from Gary A. Rozmus, Vice President, Eder Associates Consulting Engineers, P.C., to Mr. Vincent J. Frisina, P. E., Public Health Engineer, SCDHS/Hazardous Materials Management, 14 April 1986; plus attachments.

REFERENCE NO. 1

SEQUENCE: REG, ST, SITE NAME
REGION: 02

EPA IDENTIFICATION NUMBER	SITE NAME/ALIAS NAME STREET/ALIAS STREET CITY/ALIAS CITY COUNTY NAME	STATE/ALIAS STATE COUNTY CODE	ZIP CODE	ALIAS SEQ. #	NAME SOURCE	FEDERAL FACILITY FLAG	CONGRESSIONAL DISTRICT (S)
NYD000285478	COLUMBIA MILLS OFF RTE 48 MINETTO OSWEGO	NY 075	13115		STS	N	
	COLUMBIA MILLS			01			
	OSWEGO	NY					
NYD002105534	COLUMBUS MCKINNON CORP FILLMORE & FREMONT ST TONAWANDA ERIE	NY 029	14150		HWDMS	N	
NYD981184138	COMMERCIAL ENVELOPE MFG. CO., INC. 900 GRAND BOULEVARD DEER PARK SUFFOLK	NY 103	11729		EPA	N	
NYD125499673	COMPUTER CIRCUITS 145 MARCUS BLVD. HAUPPAUGE SUFFOLK	NY 103	11746			N	
NYD981486947	CONKLIN DUMPS ROUTE 7 CONKLIN BROOME	NY 007	13748		EPA	N	
	CONKLIN DUMPS			01			
	BROOME	NY					
NYD980528434	CONRAIL-(HORNELLSVILLE) LODER ST HORNELLSVILLE STEUBEN	NY 101	14807		STS	N	
	CONRAIL HORNELLSVILLE LODER STREET TOWN OF HORNELLSVILLE	NY	14843	01			

SELECTION:
SEQUENCE: REGION, STATE, SITE NAME

EVENTS: ALL

EPA ID NO.	SITE NAME / STREET / CITY / COUNTY CODE AND NAME	STATE ZIP / CONG DIST.	OPRBLE UNIT	EVENT TYPE	EVENT QUAL	ACTUAL START DATE	ACTUAL COMPL DATE	CURRENT EVENT LEAD
NYD002063154	COLUMBIA CORP		00	DS1			02/01/78	EPA (FUND)
	NY RTE 67			PA1	NFA		06/08/87	STATE(FUND)
	WALLOOMSAC	NY 12133						
	083 RENSSELAER							
NYD002063147	COLUMBIA CORP LF		00	DS1			02/01/78	EPA (FUND)
	NY RTE 295			PA1	NFA		08/01/83	EPA (FUND)
	CHATHAM	NY 12037		SI1	NFA	07/01/83	08/01/83	STATE(FUND)
	021 COLUMBIA							
NYD000285478	COLUMBIA MILLS		00	DS1			03/01/80	EPA (FUND)
	OFF RTE 48			PA1			03/01/80	EPA (FUND)
	MINETTO	NY 13115		SI1			03/01/89	STATE(FUND)
	075 OSWEGO							
NYD002105534	COLUMBUS MCKINNON CORP		00	DS1			11/16/81	EPA (FUND)
	FILLMORE & FREMONT ST			PA1		12/04/87	12/30/87	EPA (FUND)
	TONAWANDA	NY 14150		SI1			10/01/89	STATE(FUND)
	029 ERIE							
NYD981184138	COMMERCIAL ENVELOPE MFG. CO., INC.		00	DS1			03/25/86	STATE(FUND)
	900 GRAND BOULEVARD			PA1			03/27/86	STATE(FUND)
	DEER PARK	NY 11729		SI1		09/21/87	09/22/87	EPA (FUND)
	103 SUFFOLK							
NYD125499673	COMPUTER CIRCUITS		00	DS1			06/29/87	STATE(FUND)
	145 MARCUS BLVD.			PA1			07/01/87	STATE(FUND)
	HAUPPAUGE	NY 11746		SI1		06/29/87	07/01/87	STATE(FUND)
	103 SUFFOLK							
NYD981486947	CONKLIN DUMPS		00	RS1		04/11/90	09/14/90	EPA (FUND)
	ROUTE 7			RS2		07/08/91	08/12/91	EPA (FUND)
	CONKLIN	NY 13748		DS1			09/06/85	STATE(FUND)
	007 BROOME			PA1			04/11/86	STATE(FUND)

REFERENCE NO. 2

W.O.# 04200-022-081-0006

DCN#4200-22-ADVT

Commercial Envelope

BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT NO. 386 WEST CHESTER, PA

POSTAGE WILL BE PAID BY ADDRESSEE

ROY F. WESTON, INC.
1 WESTON WAY
WEST CHESTER, PA 19380-9846

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

COMMERCIAL ENVELOPE MFG. CO., INC.
DEER PARK, SUFFOLK COUNTY, NEW YORK
CERCLIS ID No.: NYD981184138

DCN: 4200-22-ADVT

Commercial Envelope Mfg. Co., Inc.
Deer Park, Suffolk County, New York
WO# 04200-022-081-0006-

Table of Contents

	Page(s)
Off-site Reconnaissance	3-5
Photograph Log	7

DDM 4/19/98

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COMMERCIAL ENVELOPE MFG. CO., INC.
DEER PARK, SUFFOLK COUNTY, NEW YORK

April 19, 1994 — Off-site reconnaissance

Weather: Cloudy/overcast, warm (~75°) humid

1500 Located site. Adjacent to other commercial operations/warehouses on south side of Grand Boulevard.
Commercial Envelope Mfg. Co / Business Envelope Mfg Co is active.

Recon team:
Diane D. Minsavage — WESTON

1502 Parked in "Fleet Bank" parking lot; located on corner of Grand Blvd and Jeffryn Blvd.
Observed storm drains in bank parking lot.
Walked west along Grand Blvd toward Commercial Envelope Mfg. Co., Inc/ Business Envelope Mfg. Co site.
"Art Marlin" building located between Fleet Bank and site.
Northeast of site across Grand Blvd — a ball field; ~200 ft from site. Three softball players present.

ELM Freight Handling operating out of "warehouse"
Counted 27 vehicles present in parking lot on eastern side of CEM/BEM bldg.
Directly across Grand Blvd — fenced + gated property — no sign identifying company

DDM 4/19/94

COMMERCIAL ENVELOPE MFG. CO., INC.
DEER PARK, SUFFOLK COUNTY, NEW YORK

19 APRIL 1994

19 APRIL 19

1522

34 Vehicles counted in parking lot on western side of CEM/BEM bldg.
— Total of 61 vehicles counted on site (windshield survey)

Innovision Inc. operating in bldg. adjacent to/just west of CEM/BEM site.

1511 Panoramic photo of front of CEM/BEM looking south to southeast from across Grand Blvd; photos IP12 - IP16 (roll continued from 3-Dimensional Circuits recon)

Looking for upgradient well (TW1), supposed to be across Grand Blvd from CEM/BEM site. Monitoring well not located — may have been removed, or may be behind/north of fence in wooded area.

1517 Panoramic photo (IP16 - IP19) of eastern portion of CEM/BEM site from across street (Grand Blvd.)

No visible drums present at site; incinerator not obvious.

1520 Photo (IP30) of eastern portion of site and ballfield across street looking west (down Grand Blvd) from front of "Art Marlin"

COMMERCIAL ENVELOPE MFG. CO., INC.
DEER PARK, SUFFOLK COUNTY, NEW YORK

19 APRIL 1994

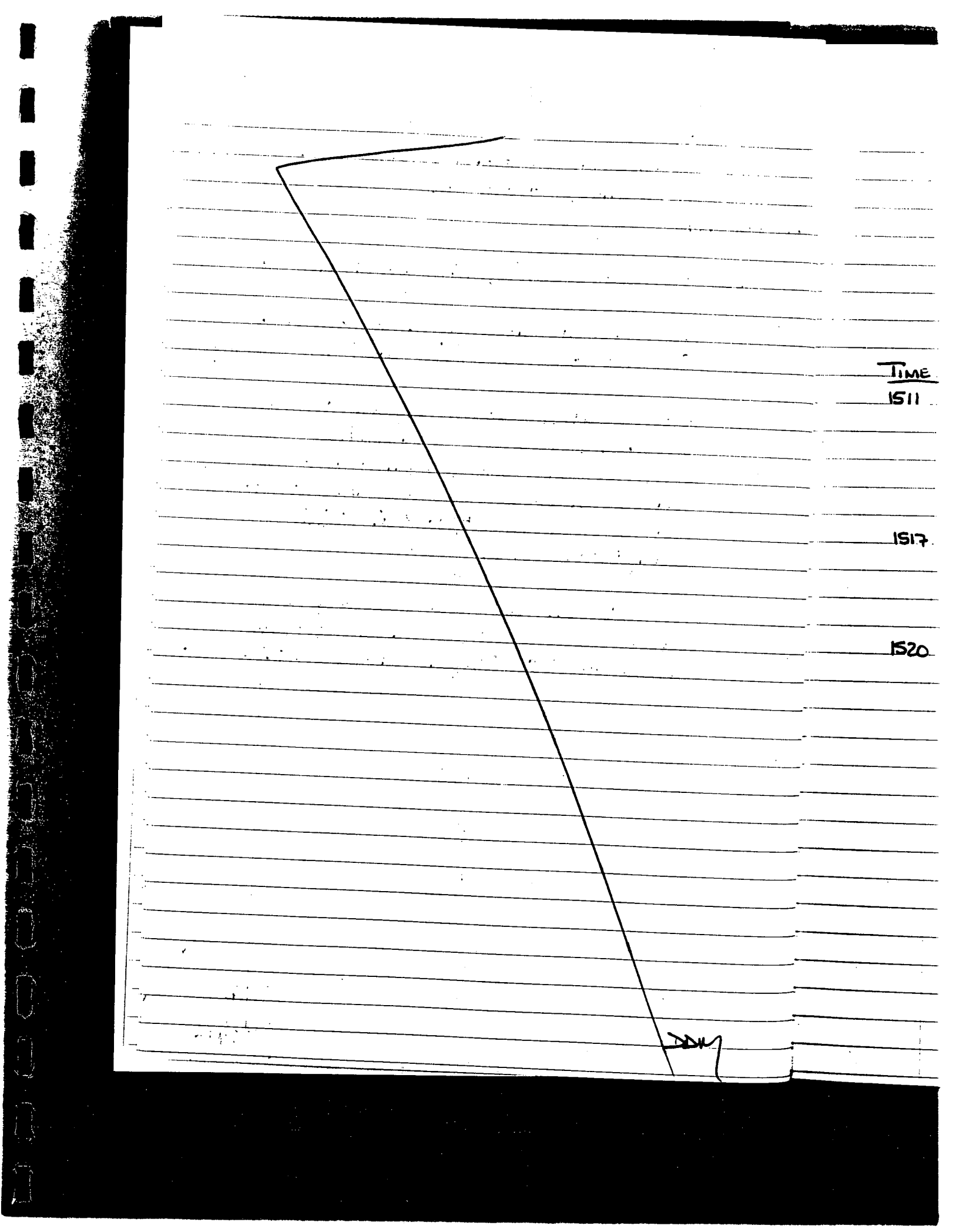
1522 Return to vehicle; drive about area —

ELM Freight Handling also posted as "ELM Public Warehouse and Distributing"

Drove southeast down Jeffryn — more commercial/industrial facilities
ELM accessible from Burt Drive - Storm drains on Jeffryn and Burt. No storm drains on Grand Blvd / in vicinity of CEM/BEM Site.

No residences/day care center present within 200 feet of the site; only industrial/commercial operations —

DDM
4/19/94


TIME
1511
1517
1520

Commercial Envelope Mfg. Co., Inc.
Deer Park, Suffolk County, New York

All photos taken by D. D. Minsavage

PHOTOGRAPH LOG

TIME	No.	DESCRIPTION
1511	IP12-16	~~Panoramic~~ DDM 4/19/94 Panoramic view of front of CEM/BEM looking south to southeast from across Grand Blvd.
1517	IP17-19	Panoramic view of eastern portion of CEM/BEM site, looking west from across Grand Blvd
1520	IP20	Photo of front of CEM/BEM and ballpark located across street, looking west from front of "Art Marlin"

DDM 4/19/94

REFERENCE NO. 3

WESTON

PROJECT NOTE

TO: Commercial Envelope Mfg. Co., Inc., file DATE: 27 June 1994

FROM: D. D. Minsavage W.O. NO.: 04200-022-081-0001e-02

SUBJECT: Various Suffolk County Department of Health Services Inspection Reports, Observations, and Analytical Results

The attached information includes various inspection reports, etc. not previously included in either the PA or SI.

DDM

COUNTY EX 2 in NWB 3-8-84

SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
INDUSTRIAL WASTE AND HAZARDOUS MATERIALS CONTROL
15 HORSEBLOCK PLACE, FARMINGVILLE, N.Y. 11738
(516) 451-4633

NAME OF FACILITY		OWNER/ OFFICER Mr. Alan Kristel	PAGE 1 OF
COMPANY NAME Commercial Envelope Mfg. Co.		CONTACT Mr. Paul Creditor	TEL.
PLANT ADDRESS Grand Blvd.	VILLAGE	TOWN	ZIP
MAILING ADDRESS			

DATE 29 Apr 83	TIME 1 pm	ORIG. PERIODIC (RE.)	WASTE	NO WASTE	H&H	SEWAGE SYSTEM	PUBLIC PRIVATE

INDUSTRY Mfg. Envelopes.

SPDES OR NPDES PERMIT?	YES NO	PERMIT NO.	360 PERMIT?	YES NO	PERMIT NO.

SCAVENGER TEL.

SCAVENGER APPROVED YES NO	PICK UP RECORDS AVAILABLE YES NO	RECORDS CONSISTENT WITH EXPECTED WASTE GENERATION YES NO

HEATING SYSTEM-MFG. NAME	FUEL TYPE	FIRING RATE
INCIN. NAME	WASTE BURNED	RATE

DRUM STORAGE (YES) NO	NUMBER STORED INDOORS 30+ OUTDOORS 60+	TYPE OF MATERIAL STORED (WASTE) (RAW)	
STORAGE TANKS (YES) NO	NUMBER OF TANKS ABOVEGROUND 1 UNDERGROUND 3	TYPE OF MATERIAL STORED (WASTE) RAW	
OPEN PROCESS TANKS (YES) NO	NUMBER OF OPEN PROCESS TANKS 1	ANY ART. XII VIOLATIONS (YES) NO	

Results of walk thru inspection conducted at Commercial Envelope Mfg. Co. Inspection made with Mr. Paul Creditor, representing Commercial Envelope. Also removed samples from select locations drums or containers.

Of special concern was a sample removed from black liquid which was discovered discharging from the South west wall of the excavation around an inground holding tank. The excavation is over the nearest tank to the building on the East side of the lot. The black liquid continued to discharge during the inspection and sampling on the

PERMISSION IS GRANTED BY THIS FACILITY TO THE SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES TO CONDUCT ROUTINE SAMPLING OF CESSPOOLS, STORMDRAINS, AND OTHER DISCHARGE POINTS AT THE FACILITY.

REINSPECTION SCHEDULED ON OR AFTER _____. FAILURE TO CORRECT UNSATISFACTORY CONDITIONS BY REINSPECTION DATE MAY RESULT IN A HEARING AND/OR FINE.

SIGN. OF PERSON REC. REPORT	TITLE	INSPECTOR David O'Brien

18-155: 9/82

5/81 TJK

INDUSTRIAL WASTE PROCESS

NO.	PROCESS	CHEMICALS USED AND APPROXIMATE QUANTITY	DISCHARGE	DISCHARGE TO
	East side of Commercial Envelope. (Approx 60-70 minutes) discharge is of particular concern because all industrial discharges from Commercial Envelope are by their claim ceased. There liquid may be from one of three possible sources, 1. industrial waste discharge, fourth industrial waste tank, or sanitary. The latter of the three seems unlikely because the wasn't observed while removing a sample of the liquid.		This new waste unpermitted system. easy order	
	Also of concern was the two samples removed from the drum, storage area in the South East portion of the side yard. Samples from the waste "Cyril Press waste" smelled strongly of perchloroethylene, and the liquid sampled seperated into two phases in the sample bottles. The samples removed from the waste containers was highly caustic, had ph ≥ 10, additions of acid for preservation caused exothermic reactions,			

AIR POLLUTION SOURCES

18-155:

NO.	PROCESS	CONTROL TYPE	EP'S	CHEMICALS OR PRODUCTS USED	AMOUNT CONSUM.	HOURS OF OPERA.	TYPE OF EMISSION
	with vapor liberations, a second exothermic reaction, the sample was still ph ≥ 10, additions of approx. 6-8 ml. HNO3.			application of Cu, ↑ HNO3	caused after the		

CONTINUED: INSPECTORS OBSERVATIONS OR INTERVIEWS

29 April 1983

1⁰⁰ PM.

Commercial Envelope Mfg. Co.
Grant Blvd. Deer Park.

Inspection Results

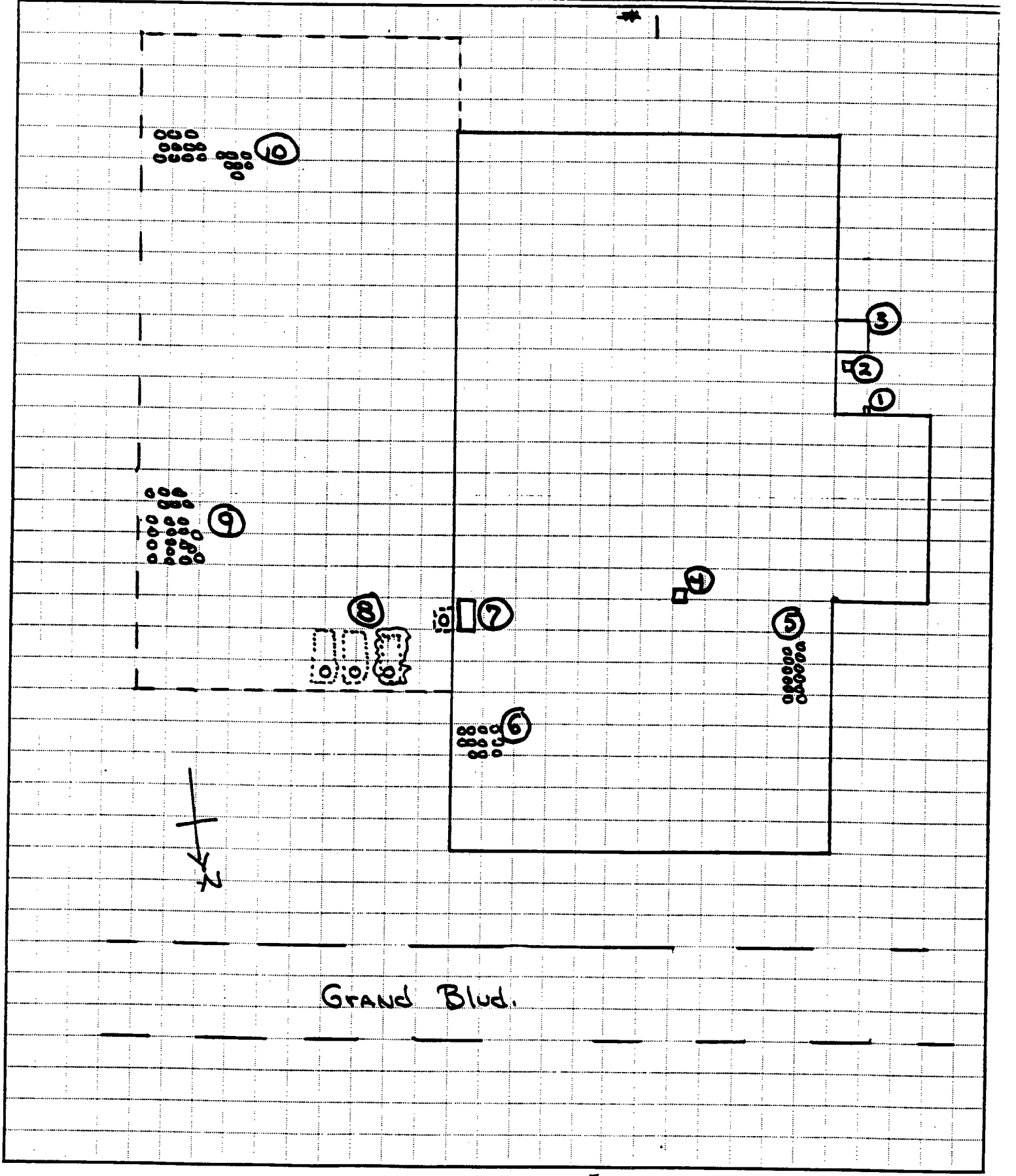
Specific Areas Noted Not in Compliance with Suffolk County Sanitary Code Article 12. or NYS. Environmental Conservation Law. As per numbers on Map.*/

(1) Cooling water discharge from pipe on wall to ground.
(2) In ground storage tank of gasoline, no permit, not registered with Suffolk County.
(3) Flamable material storage building, no permit, does not comply with SCSC Art. 12.
(4) Ink pot wash tank, inside building, process tank, may not comply with SCSC Article 12.
(5) Ink storage, 55gal. drums, may not comply with SCSC Article 12, must provide chemical analysis.
(6) Raw chemical storage area "Cyril-Press Wash," must comply with SCSC Article 12.
(7) 2000gal. steel tank, industrial waste, no permit, must comply with SCSC Article 12.
(8) Outside, inground, industrial waste holding tanks, no permit, not tested.
(9) Outside, ink, oil waste drum storage, no permit, must comply with SCSC Article 12.
(10) Outside, photo chem. press wash, drum-container storage area, no permit, must comply with Article 12

Also observed at site #8, was a discharge thru soil of black liquid from unknown source.

SUFFOLK COUNTY
DEP'T OF
HEALTH SERVICES

JOB Commen st Envelope Mfg. Co.
SHEET NO. Grand Blvd. Deer Park
CALCULATED BY _____ DATE _____
CHECKED BY David Obrey DATE 29 April 198
SCALE _____



HOLZMACHER, McLENDON and MURRELL, P.C.
H2M CORP.
575 BROAD HOLLOW ROAD, MELVILLE, NEW YORK 11747
Tel. (516) 694-3040

LABORATORY REPORT

LAB ID 03

CLIENT NAME AND ADDRESS

S. C. Dept. of Health Services
15 Horseblock Place
Farmingville, NY 11738

puddle inside excavation around underground tank, created by flow from bank

LAB. NO. 352672
TYPE WATER Miscellaneous
SAMPLING PT. I.D. #R4-DO-4-29

DATE SAMPLED 4/29/83
TIME SAMPLED
RUN TIME (WELL)
COLLECTED BY CL 99

	VOLATILE HALOGENATED	ug/l
	methylene chloride	2500
	1,1-dichloroethylene	<5
	1,1-dichloroethane	<5
*	trans-1,2-dichloroethylene	<5
*	cis-1,2-dichloroethylene	<5
	chloroform	<5
	1,1,2-trichlorotrifluoroethane	<5
	1,2-dichloroethane	<5
	1,1,1-trichloroethane	<5
	carbon tetrachloride	<5
	bromodichloromethane	<5
*	1,2-dichloropropane	<5
*	2,3-dichloropropene	<5
	trans-1,3-dichloropropene	<5
	trichloroethylene	<5
	1,1,2-trichloroethane	<5
*	chlorodibromomethane	<5
	cis-1,3-dichloropropene	<5
	bromoform	<5
*	1,1,1,2-tetrachloroethane	<5
	tetrachloroethylene	430
*	1,1,2,2-tetrachloroethane	
	vinylchloride	<5
*	dichlorodifluoro methane	<5
	chlorobenzene	<5

VOLATILE NON-HALOGENATED

	benzene	
	toluene	
*	m-xylene	
*	p-xylene	
	o-xylene	

PESTICIDES	ug/l
lindane	
heptachlor	
aldrin	
heptachlor epoxide	
dieldrin	
endrin	
o,p'DDT	
p,p'DDT	
methoxychlor	
toxaphene	
chlordane	

HERBICIDES

2,4-D	
2,4,5-TP (silvex)	

OTHERS

*Reported value represents total

RECEIVED
JUN 21 1983
SUFFOLK COUNTY DEPT. HEALTH SERVICES

5/16/83 DATE REPORTED

S.C. McLENDON, P.E., LAB DIRECTOR

HOLZMACHER, McLENDON and MURRELL, P.C.
H2M CORP.
575 BROAD HOLLOW ROAD, MELVILLE, NEW YORK 11747
Tel. (516) 694-3040

LABORATORY REPORT

LAB ID 03

CLIENT NAME AND ADDRESS

S.C. Dept. of Health Services
15 Horseblock Place
Farmingville, NY 11738

LAB. NO. 352678
TYPE WATER Miscellaneous
SAMPLING PT. I.D. #R4-DO-4-29

DATE SAMPLED 4/29/83
TIME SAMPLED
RUN TIME (WELL)
COLLECTED BY DO 99

VOLATILE HALOGENATED	ug/l
methylene chloride	
1,1-dichloroethylene	
1,1-dichloroethane	
* trans-1,2-dichloroethylene	
* cis-1,2-dichloroethylene	
chloroform	
1,1,2-trichlorotrifluoroethane	
1,2-dichloroethane	
1,1,1-trichloroethane	
carbon tetrachloride	
bromodichloromethane	
* 1,2-dichloropropane	
* 2,3-dichloropropene	
trans-1,3-dichloropropene	
trichloroethylene	
* 1,1,2-trichloroethane	
* chlorodibromomethane	
cis-1,3-dichloropropene	
* bromoform	
* 1,1,2,2-tetrachloroethane	
* tetrachloroethylene	
1,1,2,2-tetrachloroethane	
* vinylchloride	
* dichlorodifluoro methane	
chlorobenzene	

VOLATILE NON-HALOGENATED	ug/l
benzene	<30
toluene	75
* m-xylene & chlorobenzene	640
* p-xylene	73
o-xylene	330
ethylbenzene	260

PESTICIDES	ug/l
lindane	
heptachlor	
aldrin	
heptachlor epoxide	
dieldrin	
endrin	
o,p'DDT	
p,p'DDT	
methoxychlor	
toxaphene	
chlordane	

HERBICIDES	
2,4-D	
2,4,5-TP (silvex)	

OTHERS	

RUN NO. (S)

*Reported value represents total

RECEIVED
JUN 21 1983
SUFFOLK COUNTY DEPT. HEALTH SERVICES

5/22/83
DATE REPORTED

S.C. McLENDON, P.E., LAB DIRECTOR

LETTER File

SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
INDUSTRIAL WASTE AND HAZARDOUS MATERIALS CONTROL
15 HORSEBLOCK PLACE, FARMINGVILLE, N.Y. 11738
(516) 451-4633

NAME OF FACILITY	OWNER/ OFFICER Mr. Wew Mitduka-	PAGE 1 OF ___
COMPANY NAME Commercial Envelope Wtg. Co.	CONTACT Mr. Raman Ire- H_2W	TEL.
PLANT ADDRESS Grand Blvd.	VILLAGE Deer Park TOWN Bab. N.Y.	ZIP
MAILING ADDRESS		

DATE	TIME	ORIG.	PERIODIC	RE.	WASTE	NO WASTE	H&H	SEWAGE SYSTEM	PUBLIC	PRIVATE
JAN 3, 85	9:30 AM									

(1) CPC pump tanker → EPA# NYDO 8278429 NYS Lic 8030-PT.

(2)

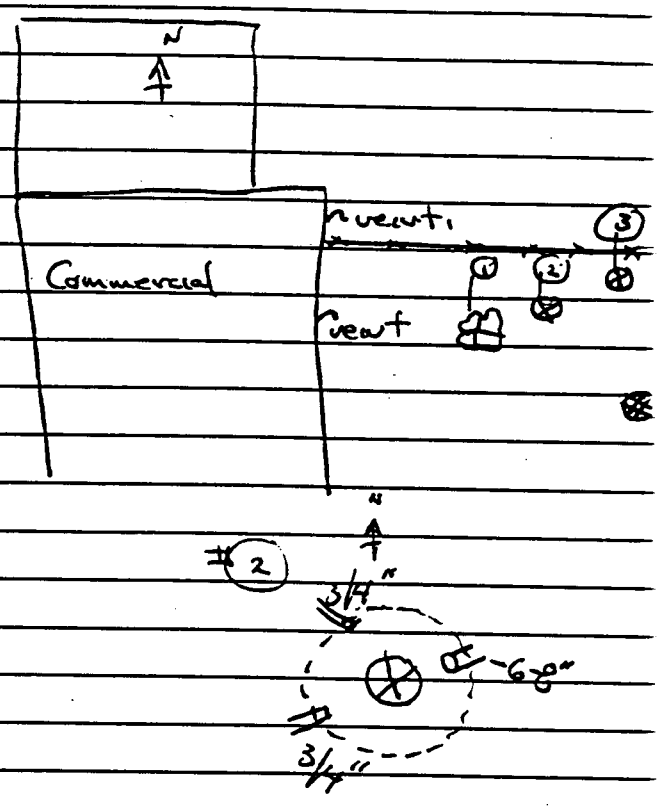
#(1) Site of bubbling pool, (puddle). Filled to grade with liquid.

#(2) Solid covered pool, filled with gray liquid approx 4-5 Ft. below grade. Pipe in NE corner approx. 6-8" iron probable over flow to #(3)

#(2) observed 2nd 3-4" pipe entering pool, approx. 5-6 Ft below grade, from NW direction.

#(3) Removed cover, pool very deep leaching pool, depth to liquid approx. 20 Ft.

#(2) observed 3-4" pipe entering pool, 5-6 Ft (3rd) below grade, from a SW direction, approx. 30-40 gal ct dark liquid entered the pool from the pipe, but stoped after the vertical spurt.



(3) Approx 10:30 CPC removed approx. 3000 gal. from pool #(2)

(4) CPC has removed the debris + sludge from around the "roof off" dumpster area + placed them in drums.

1R-224-0 84

CONTINUED: INSPECTORS OBSERVATIONS OR INTERVIEWS

Jan. 3, 85

(5) Storm drain inside loading dock - liquid approx. 23 ft. below grade there appears to be 3x 3-4" pipes at liquid level. These pipe probable are over flow pipes to adjacent pools.

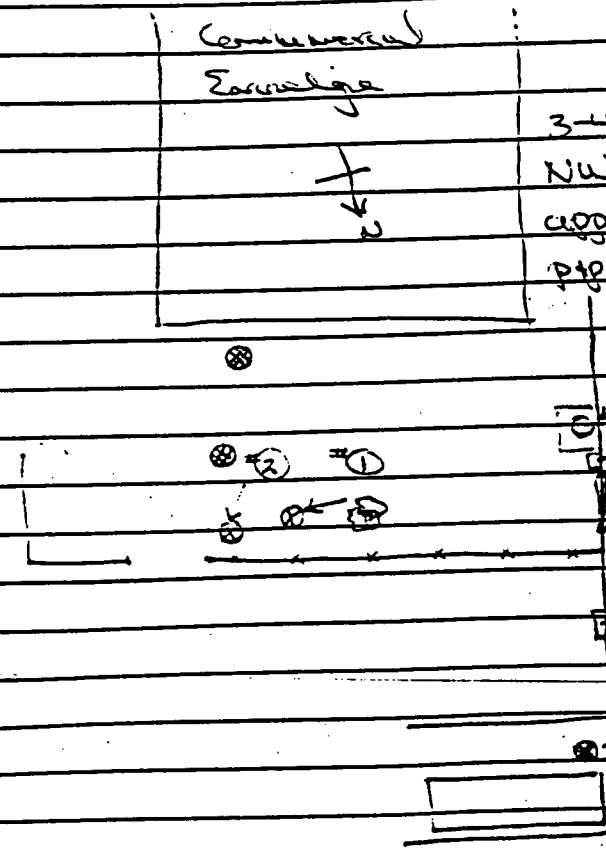
(6) Resample of storm drain in loading dock revealed a lead of 9 ≅ 9 mg/l.

(7) CPC has removed ≅ 3000 gal. from the leaching pool #(2).

Jan. 4, 85

(1) CPC has removed an additional 1500 gal. from pool #(2), and started to bucket sludge from the bottom, + 550 gal of liquid sludge.
(2) CPC has removed + drumed approx. 31 x 55 gls drums of sludge + debris from around the computer area. Over site additional liquid spilled from the computer as Commercial Envelope was trying to place ink + other liquids into the computer. Immediately inside the computer's door I observed several trash barrels, at least 2 had ink cans within the trash, the cans contained residue raw ink.
(3) I delivered a notice to Mr. Alan Krystal a principal of Commercial Envelope I read the notice to Mr. Krystal + explained to him particular parts of that notice, I had Mr. Krystal sign the notice + gave him the original.
(4) Upon returning to the creek at approx 12:45 we observed that the industrial waste incinerator was in operation. I notified Mr. Ive & Hall that Commercial had not Permit to operate the source.

CONTINUED: INSPECTORS OBSERVATIONS OR INTERVIEWS



*(1) leaching pool, contains (2) two 3-4" pipes entering the pool from a SW + NW direction, these two 3-4" pipes are approx 5-8 ft. below grade. There is a third pipe going in an East direction, the pipe is 3-4 ft below grade coarses 6-8" in radius.

*(2) Leaching pool "(2)" has liquid in and is approx 20 ft. deep. There are pipe entering it from a Westerly direction, the pipe is 3-4 ft below grade + is 6-8" in radius.

*(3) Storm drain in loading dock, unknown depth, pipe was placed in drain down approx. 8-24. - 3-4 ft of liquid the rest dark blue sludge. There are (3) three - 3-4 inch pipes in the East side of the drain, approx. 3-4 ft. below grade. These pipes are probably overflow pipes. The liquid in the storm drain has dropped approx. 12-16" since last observed on the 3rd of Jan. 85. in the AM.

CONTINUED: INSPECTORS OBSERVATIONS OR INTERVIEWS

Jan. 25, 85

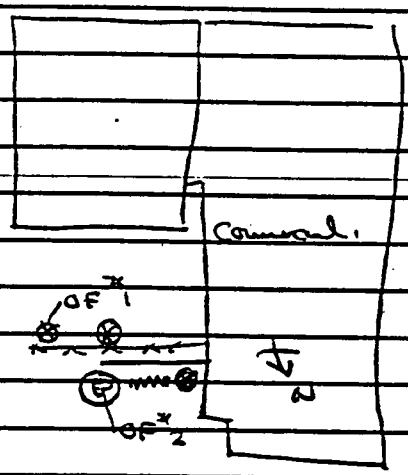
Commercial Envelope Mfg. Corp.
Grand Blvd. Deer Park NY.

(1) loading dock overflow pumped down to sludge

(2) Overflow pool from ink pot wash machine pumped down to sludge.

Total of 2200 gall removed from both pools by CPC.

(3) Sludge in ink pot wash discharge pool system was examined no obvious contamination. Sludge very thin not colored. Pool will be filled in with sand.



(4) Loading dock storm drains overflow pool cement cap has been removed + pool widened + exposed. There are two 4-6" white piped exterior pool, side by side from the direction (West) of the inside loading dock storm drain.
There is sludge at the bottom of the pool which will be removed.
The are no other apparent overflow pipes from the excavated overflow pool. The pool is a typical leaching pool, approx. 20-25 ft. deep.

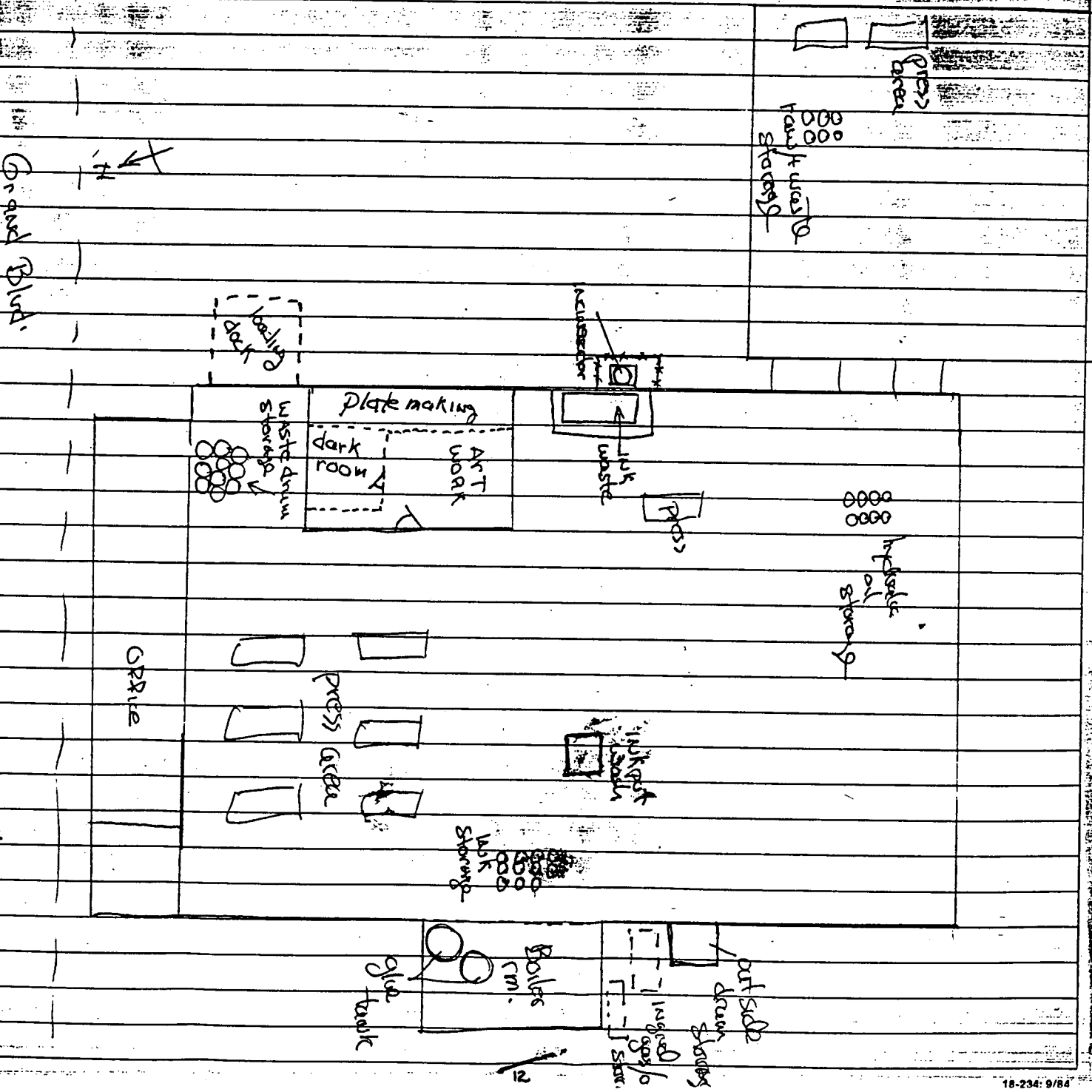
(5) The garbage in the compactor still contains ink soaked rags + some empty ink cans, discolored water (black) is standing in the loading dock.

David Oy.

SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
INDUSTRIAL WASTE AND HAZARDOUS MATERIALS CONTROL
15 HORSEBLOCK PLACE, FARMINGVILLE, N.Y. 11738
(516) 451-4633

NAME OF FACILITY		OWNER/ OFFICER		PAGE ___ OF ___
COMPANY NAME: Commercial Envelope Mfg Corp.		CONTACT		TEL #
PLANT ADDRESS: Grand Blvd	VILLAGE: Deer Park	TOWN: Babylon NY		ZIP
MAILING ADDRESS				

DATE	TIME	ORIG. PERIODIC RE.	WASTE	NO WASTE	H&H	SEWAGE SYSTEM	PUBLIC PRIVATE



REFERENCE NO. 4

WESTON

PROJECT NOTE

TO: Commercial Envelope Mfg. Co., Inc. file

DATE: 27 June 1994

FROM: D.D. Minsavage

W.O. NO.: 04200-022-081-0006-02

SUBJECT: Assorted groundwater monitoring information

Attached are letters and groundwater sampling results previously not included in either the PA or SI

DDM

GERAGHTY & MILLER, INC.
Ground-Water Consultants

November 26, 1985

Mr. James Maloney, P.E.
Suffolk County Department of Health Services
15 Horseblock Place
Farmingville, New York 11738

Re: Commercial Envelope Manufacturing Company

Dear Mr. Maloney:

Pursuant to Condition 15 of an Order of Consent which is expected to be issued shortly, we are submitting herewith a proposal to determine the quality of ground water at selected locations beneath the Commercial Envelope Manufacturing Company, Inc. in Deer Park, New York. Specifically, the investigation will be directed toward determining whether activities at the site have caused a significant degradation of ground-water quality.

The direction of ground-water flow beneath the site is approximately south-southeast. The water table is estimated to be 25 to 35 feet below land surface. We plan to install three wells on the property, one upgradient and two downgradient of alleged contamination points. Proposed locations are shown on the accompanying sketch map. At this time, we see no reason to install wells off-site.

The wells will be installed by means of a hollow-stem auger rig and will consist of 1-1/4- or 2-inch diameter PVC casing and screen. Five feet of screen will be used in each well, with the top of the screen set several feet below the water table. Because the wells will be developed and sampled with a bailer, a five-foot section of casing will be attached to the bottom of the screen to serve as a sump.

The wells will be finished at land surface and equipped with protective steel casing and a locking meter box or equivalent to preventing unauthorized access. The tops of the casings will be surveyed to mean sea level; water-level measurements taken subsequently will be used to establish the elevation of the water table and the direction of ground-water flow.

Samples will be taken from the wells after three to five times the volume of water standing in the casing has been removed. The samples will be analyzed for volatile organic compounds (VOCs) by EPA method 624 and for selected metals. Analyses will be run for the following metals:

North Shore Atrium • 6800 Jericho Turnpike • Syosset, New York 11791 • (516) 921-6060
Cable: WATER • Telecopy: (516) 921-6273

Metal	Detection Limit (mg/L)
Barium	0.1
Cadmium	0.005
Chromium	0.02
Copper	0.02
Iron	0.02
Lead	0.05
Nickel	0.03
Silver	0.01
Zinc	0.01

Samples collected for metals analysis will be passed through a 0.45-micron filter upon collection, prior to preservation and transport to the laboratory.

The analytes selected represent constituents which are most commonly used at the plant site, according to findings of the SCDOHS. Although additional analytes might be considered, their presence exclusive of those given above is most unlikely; therefore, such analyses are unwarranted at this time.

It should be noted that, given the highly industrialized nature of the area, the existence of ground-water contamination is possible. Unless contamination levels are significantly higher in the downgradient wells than in the upgradient well, any such contamination should not be attributed to site activities.

If you have any questions regarding the preceding, please let us know.

Sincerely,

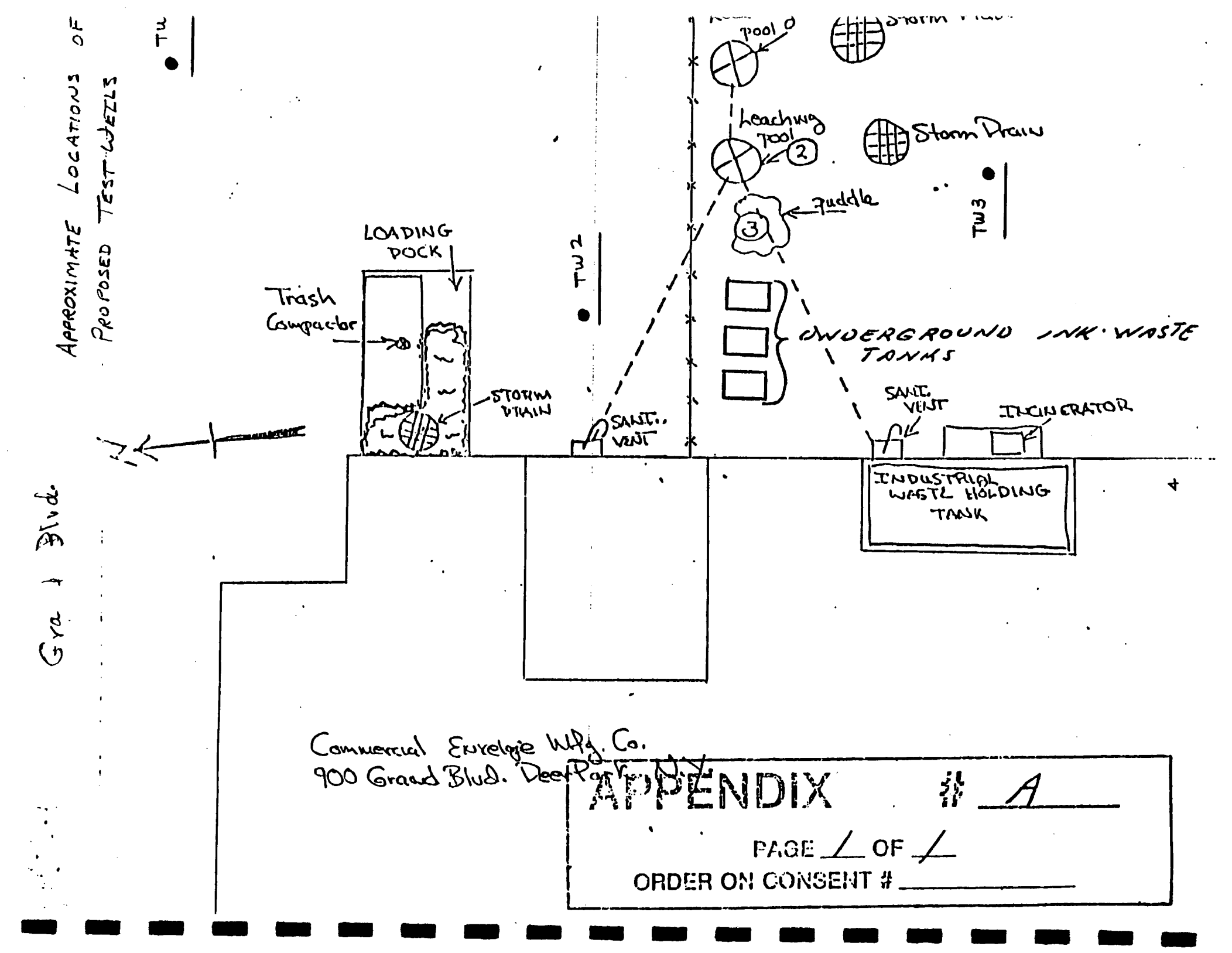
GERAGHTY & MILLER, INC.

Douglas R. MacCallum
Senior Scientist

Michael J. McEachern
Associate

cc: S. Cohen, Esq.

DRM/vk


APPROXIMATE LOCATIONS OF PROPOSED TEST WELLS
TW1
TW2
TW3
Pool 0
Leaching Pool (2)
Storm Drain
Puddle (3)
LOADING DOCK
Trash Compactor
STORM DRAIN
SANIT. VENT
UNDERGROUND INK WASTE TANKS
SANIT. VENT
INCINERATOR
INDUSTRIAL WASTE HOLDING TANK
Grand Blvd.
Commercial Envelope Mfg. Co.
900 Grand Blvd. Deer Park, NY
APPENDIX # A
PAGE 1 OF 1
ORDER ON CONSENT #

COAST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C870378/1

03/16/87

Geraghty & Miller, Inc.
125 East Bethpage Rd.
Plainview, NY 11803
ATTN: Andy Barber

SOURCE OF SAMPLE: Project #N0852WS1
COLLECTED BY: Client DATE COL'D:02/27/87 RECEIVED:02/27/87

SAMPLE: Water sample, DP1

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Bromomethane	ug/L	<1
Dichlordifluomethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Chloroethane	ug/L	<1
Methylene Chloride	ug/L	<2
Trichlorofluomethane	ug/L	<2
11 Dichloroethene	ug/L	<2
11 Dichloroethane	ug/L	<2
12 Dichloroethene	ug/L	<2
Chloroform	ug/L	<1
12 Dichloroethane	ug/L	<2
111 Trichloroethane	ug/L	2
Carbon Tetrachloride	ug/L	<1
Bromodichloromethane	ug/L	<1
12 Dichloropropane	ug/L	<2
t 13 Dichloropropene	ug/L	<2
Trichloroethylene	ug/L	<1
Chlorodibromomethane	ug/L	<1
112 Trichloroethane	ug/L	<2
c 13 Dichloropropene	ug/L	<2
2chloroethvinylether	ug/L	<2
Bromoform	ug/L	<2
1122Tetrachloroethan	ug/L	<2
Tetrachloroethene	ug/L	<1

ANALYTICAL PARAMETERS		
Chlorobenzene	ug/L	<1
13 Dichlorobenzene	ug/L	<2
12 Dichlorobenzene	ug/L	<2
14 Dichlorobenzene	ug/L	<2
Benzene	ug/L	<1
Toluene	ug/L	5
Ethyl Benzene	ug/L	<1

Barium as Ba	mg/L	0.10
Cadmium as Cd	mg/L	0.001
Chromium as Cr	mg/L	<0.02
Copper as Cu	mg/L	<0.02
Iron as Fe	mg/L	<0.05
Lead as Pb	mg/L	<0.005
Nickel as Ni	mg/L	<0.10
Silver as Ag	mg/L	<0.01
Zinc as Zn	mg/L	0.12

cc:

REMARKS:

DIRECTOR Thomas R. Gerstle

rn= 1258

ENVIRONMENTAL LABORATORIES INC ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. P.O. BABYLON, N.Y. 11702 (516) 422-8777

LAB NO. C870378/2 03/16/87

Geraghty & Miller, Inc.
125 East Bethpage Rd.
Plainview, NY 11803
ATTN: Andy Barber

SOURCE OF SAMPLE: Project #N0852WG1
COLLECTED BY: Client DATE COL'D:02/27/87 RECEIVED:02/27/87

SAMPLE: Water sample, DP3

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Bromomethane	ug/L	<1
Dichlordifluomethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Chloroethane	ug/L	<1
Methylene Chloride	ug/L	<2
Trichlorofluomethane	ug/L	11
11 Dichloroethene	ug/L	<2
11 Dichloroethane	ug/L	<2
12 Dichloroethene	ug/L	<2
Chloroform	ug/L	<1
12 Dichloroethane	ug/L	<2
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Bromodichloromethane	ug/L	<1
12 Dichloropropane	ug/L	<2
t 13 Dichloropropene	ug/L	<2
Trichloroethylene	ug/L	<1
Chlorodibromomethane	ug/L	<1
112 Trichloroethane	ug/L	<2
c 13 Dichloropropene	ug/L	<2
2chloroethvinylether	ug/L	<2
Bromoform	ug/L	<2
1122Tetrachloroethan	ug/L	<2
Tetrachloroethene	ug/L	5

ANALYTICAL PARAMETERS		
Chlorobenzene	ug/L	<1
13 Dichlorobenzene	ug/L	<2
12 Dichlorobenzene	ug/L	<2
14 Dichlorobenzene	ug/L	<2
Benzene	ug/L	<1
Toluene	ug/L	<2
Ethyl Benzene	ug/L	<1

cc:

REMARKS:

DIRECTOR Thomas R. Gentile

6

rm= 1259

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTII

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C881533/1

07/21/88

Geraghty & Miller, Inc.
125 East Bethpage Rd.
Plainview, NY 11803
ATTN: Douglas Newton

SOURCE OF SAMPLE: Job NY0985GW01, Deerpark, NY
COLLECTED BY: Client DATE COL'D:06/29/88 RECEIVED:06/29/88

SAMPLE: Water sample, DP-1

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Bromomethane	ug/L	<1
Dichlordifluomethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Chloroethane	ug/L	<1
Methylene Chloride	ug/L	<2
Trichlorofluomethane	ug/L	<2
11 Dichloroethene	ug/L	<2
11 Dichloroethane	ug/L	<2
12 Dichloroethene	ug/L	<2
Chloroform	ug/L	<1
12 Dichloroethane	ug/L	<2
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Bromodichloromethane	ug/L	<1
12 Dichloropropane	ug/L	<2
t 13 Dichloropropene	ug/L	<2
Trichloroethylene	ug/L	<1
Chlorodibromomethane	ug/L	<1
112 Trichloroethane	ug/L	<2
c 13 Dichloropropene	ug/L	<2
2chloroethvinylether	ug/L	<2
Bromoform	ug/L	<2
1122Tetrachloroethan	ug/L	<2
Tetrachloroethene	ug/L	<1

ANALYTICAL PARAMETERS		
Chlorobenzene	ug/L	<1
13 Dichlorobenzene	ug/L	<2
12 Dichlorobenzene	ug/L	<2
14 Dichlorobenzene	ug/L	<2
Benzene	ug/L	<1
Toluene	ug/L	<2
Ethyl Benzene	ug/L	<1
m Xylene	ug/L	<2
o+p Xylene	ug/L	<4
Barium as Ba	mg/L	<0.05
Cadmium as Cd	mg/L	<0.00
Chromium as Cr	mg/L	<0.00
Copper as Cu	mg/L	<0.02
Iron as Fe	mg/L	0.05
Lead as Pb	mg/L	<0.00
Nickel as Ni	mg/L	<0.1
Silver as Ag	mg/L	<0.00
Zinc as Zn	mg/L	<0.02

cc:

REMARKS:

RECEIVED AT EA
NOV 27 1989
FILE NO. 52501
LJE ___ FHI ___
GAR ___
WIC ___

DIRECTOR

rn= 6108

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C881533/2

07/21/88

Geraghty & Miller, Inc.
125 East Bethpage Rd.
Plainview, NY 11803
ATTN: Douglas Newton

SOURCE OF SAMPLE: Job NY0985GW01, Deerpark, NY
COLLECTED BY: Client DATE COL'D:06/29/88 RECEIVED:06/29/88

SAMPLE: Water sample, DP-2

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Bromomethane	ug/L	<1
Dichlorodifluomethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Chloroethane	ug/L	<1
Methylene Chloride	ug/L	<2
Trichlorofluomethane	ug/L	<2
11 Dichloroethene	ug/L	<2
11 Dichloroethane	ug/L	<2
12 Dichloroethene	ug/L	17
Chloroform	ug/L	<1
12 Dichloroethane	ug/L	<2
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Bromodichloromethane	ug/L	<1
12 Dichloropropane	ug/L	<2
t 13 Dichloropropene	ug/L	<2
Trichloroethylene	ug/L	4
Chlorodibromomethane	ug/L	<1
112 Trichloroethane	ug/L	<2
c 13 Dichloropropene	ug/L	<2
2chloroethvinylether	ug/L	<2
Bromoform	ug/L	<2
1122Tetrachloroethan	ug/L	<2
Tetrachloroethene	ug/L	32

ANALYTICAL PARAMETERS		
Chlorobenzene	ug/L	<1
13 Dichlorobenzene	ug/L	<2
12 Dichlorobenzene	ug/L	<2
14 Dichlorobenzene	ug/L	<2
Benzene	ug/L	<1
Toluene	ug/L	<2
Ethyl Benzene	ug/L	<1
m Xylene	ug/L	<2
o+p Xylene	ug/L	<4
Barium as Ba	mg/L	<0.05
Cadmium as Cd	mg/L	<0.001
Chromium as Cr	mg/L	<0.005
Copper as Cu	mg/L	<0.02
Iron as Fe	mg/L	17
Lead as Pb	mg/L	<0.005
Nickel as Ni	mg/L	<0.1
Silver as Ag	mg/L	<0.001
Zinc as Zn	mg/L	<0.02

cc:

REMARKS:

DIRECTOR

rn= 6109

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTI

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C881533/3 07/21/88

Geraghty & Miller, Inc.
125 East Bethpage Rd.
Plainview, NY 11803
ATTN: Douglas Newton

SOURCE OF SAMPLE: Job NY0985GW01, Deerpark, NY
COLLECTED BY: Client DATE COL'D:06/29/88 RECEIVED:06/29/88

SAMPLE: Water sample, DP-3

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Bromomethane	ug/L	<1
Dichlordifluomethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Chloroethane	ug/L	<1
Methylene Chloride	ug/L	<2
Trichlorofluomethane	ug/L	<2
11 Dichloroethene	ug/L	<2
11 Dichloroethane	ug/L	<2
12 Dichloroethene	ug/L	<2
Chloroform	ug/L	<1
12 Dichloroethane	ug/L	<2
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Bromodichloromethane	ug/L	<1
12 Dichloropropane	ug/L	<2
t 13 Dichloropropene	ug/L	<2
Trichloroethylene	ug/L	<1
Chlorodibromomethane	ug/L	<1
112 Trichloroethane	ug/L	<2
c 13 Dichloropropene	ug/L	<2
2chloroethvinylether	ug/L	<2
Bromoform	ug/L	<2
1122Tetrachloroethan	ug/L	<2
Tetrachloroethene	ug/L	<1

ANALYTICAL PARAMETERS		
Chlorobenzene	ug/L	<1
13 Dichlorobenzene	ug/L	<2
12 Dichlorobenzene	ug/L	<2
14 Dichlorobenzene	ug/L	<2
Benzene	ug/L	<1
Toluene	ug/L	<2
Ethyl Benzene	ug/L	<1
m Xylene	ug/L	<2
o+p Xylene	ug/L	<4
Barium as Ba	mg/L	0.31
Cadmium as Cd	mg/L	<0.0(
Chromium as Cr	mg/L	<0.0(
Copper as Cu	mg/L	<0.0:
Iron as Fe	mg/L	0.05
Lead as Pb	mg/L	<0.0(
Nickel as Ni	mg/L	<0.1
Silver as Ag	mg/L	<0.0(
Zinc as Zn	mg/L	<0.0:

cc:

REMARKS:

DIRECTOR Howard R. Pruett

rn= 6110

REFERENCE NO. 5

WESTON

PROJECT NOTE

TO: Commercial Envelope Mfg. Co. Inc. file

DATE: 28 June 1994

FROM: D. D. Minsavage

W.O. NO.: 04200-022-081-00016-02

SUBJECT: Assorted sampling results

Attached are various (unrelated) sampling results which were not previously included in either the PA or SI.

DDM

COUNTY OF SUFFOLK

PETER F. COHALAN
SUFFOLK COUNTY EXECUTIVE

DEPARTMENT OF HEALTH SERVICES

DAVID HARRIS, M.D., M.P.H.
COMMISSIONER

CERTIFIED MAIL-R.R.R.
P 623 150 306

March 27, 1986

Commercial Envelope
900 Grand Boulevard
Deer Park, New York 11729

Attention: Ira B. Kristel, President

Gentlemen:

This correspondence is to inform you that on February 27, 1986, a representative of this department secured soil samples approximately two (2) feet below grade, in the area where excavation is being accomplished on the west side of the building.

Review of the laboratory results showed that the following metal compounds are in excess of existing groundwater standards and guidelines:

Copper	865.0 ppm	Nickel	25.0 ppm
Chromium-Tot	37.0 ppm	Lead	166.0 ppm

These unsatisfactory conditions constitute violations of the New York State Environmental Conservation Law and Article 12 of the Suffolk County Sanitary Code promulgated to reduce groundwater contamination. Under the Suffolk County Sanitary Code, you may be subject to the imposition of a $500 civil penalty for each day that these contaminants are allowed to leach out of the sanitary system. Please be advised that these compounds are considered hazardous and toxic and should not have been discharged to the ground or any sanitary or storm drain leaching pools. Said contaminated soil should be transported and disposed of only by an approved licensed industrial waste hauler. Therefore, it is expected that an immediate evaluation of your waste disposal practices be initiated to prevent further unpermitted discharges.

(continued . . .)

15 HORSEBLOCK PLACE ■ FARMINGVILLE, NEW YORK 11738 ■ (516) 451- 4641

Furthermore, due to the excessive nature of this discharge, you are directed to have any liquids, solids and contaminated soil excavated and removed by an industrial waste hauler by April 18, 1986. A list of approved scavengers may be obtained by contacting the Solid Waste Section of the New York State Department of Environmental Conservation located at the State University at Stony Brook, New York, telephone number 516-751-7900. Kindly notify this office three (3) working days in advance of the clean-up date so that one of our representatives may be present.

Since an industrial waste generator's permit may be required before clean-up is accomplished, you should immediately contact the U.S.E.P.A., Permit Administration Branch Region 2, Room 432, 26 Federal Plaza, New York, New York 10278, or by telephoning 212-264-9881 to expedite your request so that this department's directive could be executed within the time frame allotted.

We wish to express our deep concern regarding this discharge and that it is most important that you act expeditiously in eliminating this practice.

Very truly yours,

D. C. Gobbi
Bureau of Environmental Pollution Control

DCG/lc

NOTICE OF VIOLATION

COUNTY OF SUFFOLK

CERTIFIED MAIL - R.R.R.

PETER F. COHALAN
SUFFOLK COUNTY EXECUTIVE

DEPARTMENT OF HEALTH SERVICES

Date January 15, 1985
SPDES NO.
Lab. No. IW-1084031
Field No. I-DO-10-24

Commercial Envelope Mfg. Corp.
900 Grand Blvd.
Deer Park, New York 11729

ATTENTION: Mr. Ira Krystel, President

Gentlemen:

On 10/24/84 samples of industrial waste were taken from your SURFACE OF LIQUID DISCHARGING UP THRU GROUND SURFACE, PURPLE/GRAY IN COLOR, ACTIVE FLOW. Upon analysis, the following parameters were found in concentrations above the maximum allowed in your SPDES Permit or in groundwater effluent standards:

1. Methylene Chloride	930 ppb	6. Xylene(s)	310 ppb
2. p-Ethyltoluene	120 ppb	7. 1,3,5 Trimethylbenzene	78 ppb
3. n-Decane	87 ppb	8. 1,2,4 Trimethylbenzene	170 ppb
4. n-Undecane	100 ppb	9. p-Diethylbenzene	50 ppb
5. Toluene	580 ppb	10. Methyl Isobutyl Ketone	270 ppb

Please be advised that these unsatisfactory conditions constitute violations of the N.Y.S. Environmental Conservation Law and/or the Suffolk County Sanitary Code. Please be further advised that the discharge of any water from an industrial process to the groundwater of Suffolk County without having first obtained a State Pollutant Discharge Elimination System (SPDES) Permit for that discharge is also a violation of the N.Y.S. E.C.L. and/or the Suffolk County Sanitary Code, Article 12.

If you do not already possess a valid SPDES Permit for the above discharge, then you should apply immediately through this office for said permit.

Since the above-noted violations may subject you to legal action, it is expected that these violations cease immediately. Violations of the Suffolk County Sanitary Code are subject to the imposition of a civil penalty of up to Five Hundred ($500) dollars per violation. E.C.L. violations are also subject to a civil penalty. A reinspection in the near future will determine your compliance in this matter.

Very truly yours,

John H. Finkenberg, Sr. Sanitarian
Environmental Pollution Control

15 Horseblock Pl.
Farmingville, NY 11738
(516) 451-4628

(SEE REVERSE SIDE FOR STANDARDS)

004

IW- 1084031
10-24-84 By FA
D NO. 10010/84

DATE COMPLETED 12-21-84
EXAMINED BY KH
ERC 1/4/85 OC.

SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
DIVISION OF MEDICAL LEGAL INVESTIGATIONS & FORENSIC SCIENCES
PUBLIC HEALTH LABORATORY

TRACE ORGANIC ANALYSIS OF INDUSTRIAL WASTE

Name Commercial Envelope Mfg Co.

Location Grand Blvd. Deer Park NY

Point of Collection surface of liquid discharging up thru ground

Remarks: surface, purple/gray in color, active flow

Compound	ppb	Compound	ppb
Methylene Chloride	930	Cis Dichloroethylene	<16
Freon 113	<4	Benzene	<10
Chloroform	<5	Toluene	580
1,1,1 Trichloroethane	<2	Chlorobenzene	<12
Carbon Tetrachloride	<1	Ethylbenzene	36
1,1,2 Trichloroethylene	<5	Xylene(s)	310
Bromodichloromethane	<3	Bromobenzene	<16
1,1,2 Trichloroethane	<5	Chlorotoluene(s)	<12
Chlorodibromomethane	<6	1,3,5 Trimethylbenzene	72
Tetrachloroethylene	32	1,2,4 Trimethylbenzene	170
Bromoform	<5	m,p-Dichlorobenzene	<20
1,1,2,2 Tetrachloroethane	<4	o-Dichlorobenzene	<10
Octane	<40	p-Diethylbenzene	53
Styrene	<10	1,2,4,5 Tetramethylbenzene	29
n-Nonane	140	1,2,4 Trichlorobenzene	<12
p-Ethyltoluene	130	1,2,3 Trichlorobenzene	<12
n-Decane	87		
n-Undecane	100	methyl isobutyl ketone	270

MAXIMUM TERRAIN.

During transport of the sample from collection point to laboratory, the chain of custody must not be broken. The sample should be delivered by the sample collector or a designated representative who will sign for the receipt, integrity, and transfer of the sample during shipment.

	SIGNATURE	AFFILIATION	DATE	TIME
1. Collected by				
2. Transfered to	Frances J Orlando	SCDHS-PHL	10-24-84	12:40 PM
3. Transfered to				
4. Transfered to				

005

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C871959 09/29/87

Chemical Management Inc.
340 Eastern Parkway
Farmingdale, NY 11735
ATTN: Jack Leibel

SOURCE OF SAMPLE: Commercial Envelope
COLLECTED BY: Client DATE COL'D: RECEIVED: 09/11/87

SAMPLE: Liquid waste, composite of "2" & "3"

ANALYTICAL PARAMETERS		
% Solids		42.0
% Suspended Solids		42.0
% Dissolved Solids		<0.1
% Ash		2.2
Specific Gravity		1.1
pH	units	8.1
Flash Point	deg C	>87*
COD	mg/Kg	110000
Oil and Grease	mg/Kg	4200
Phenols as Phenol	mg/Kg	28 ppb
Cyanide as CN	mg/Kg	<2
Fluoride as F	mg/Kg	<16
Aluminum as Al	mg/Kg	1100
Arsenic as As	mg/Kg	<0.15
Barium as Ba	mg/Kg	140
Cadmium as Cd	mg/Kg	0.10
Chromium as Cr	mg/Kg	120
Copper as Cu	mg/Kg	550
Iron as Fe	mg/Kg	60
Lead as Pb	mg/Kg	320
Mercury as Hg	mg/Kg	0.052
Nickel as Ni	mg/Kg	0.50
Selenium as Se	mg/Kg	0.13
Silver as Ag	mg/Kg	0.15

ANALYTICAL PARAMETERS		
Tin as Sn	mg/Kg	1.2
Zinc as Zn	mg/Kg	130

cc:

REMARKS: *Sample boiled at 87 degrees C without flashing.
Page 1 of 2.

DIRECTOR

rn= 6940

COTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO: C871959 09/29/87

Chemical Management, Inc.
340 Eastern Parkway
Farmingdale, NY 11735
ATTN: Jack Leibel

SOURCE OF SAMPLE: Commercial Envelope (metals by eptox)
COLLECTED BY: Client DATE COL'D: RECEIVED:09/11/87

SAMPLE: EP Extract of liquid waste

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Aluminum as Al	mg/L*	0.095	
Arsenic as As	mg/L*	<0.005	
Barium as Ba	mg/L*	0.75	
Cadmium as Cd	mg/L*	<0.001	
Chromium hex as Cr	mg/L*	<0.02	
Chromium as Cr	mg/L*	0.41	
Copper as Cu	mg/L*	0.22	
Iron as Fe	mg/L*	0.16	
Lead as Pb	mg/L*	0.63	
Mercury as Hg	mg/L*	<0.001	
Nickel as Ni	mg/L*	<0.10	
Selenium as Se	mg/L*	<0.005	
Silver as Ag	mg/L*	<0.01	
Tin as Sn	mg/L*	<0.05	

cc:

REMARKS: *Analysis performed on EP Extract according to USEPA EP Toxicity procedure (40 CFR Part 261-Appen. II).

DIRECTOR Thomas R. Gleason

rn= 6941

eder associates
consulting engineers, p.c.

November 1, 1988
File #525-1

Ms. Tanya Hermos
New York State Department
of Environmental Conservation
SUNY - Building 40
Stonybrook, New York 11794

Dear Ms. Hermos:

Enclosed please find the laboratory results for drum sampling at the Commercial Envelope facility in Deer Park, New York. All samples are composites of four or five drums each, and are made up as follows:

Composite A	5 Drums
Composite B	5 Drums
Composite C	5 Drums
Composite D	5 Drums
Composite E	5 Drums
Composite DS-A	4 Drums
Composite DS-B	4 Drums
Composite DS-C	4 Drums
Composite DS-D	4 Drums
Composite E-2	5 Drums

If you have any further questions, feel free to call me at (516) 671-8440.

Very truly yours,

EDER ASSOCIATES CONSULTING ENGINEERS, P.C.

Nicholas A. Andrianas, P.E.
Senior Project Manager

NAA/cj
Enc.

cc: S. Kristel

#4825C

008

85 FOREST AVENUE • LOCUST VALLEY, NEW YORK 11560 • (516) 671-8440
2317 INTERNATIONAL LANE • MADISON, WISCONSIN 53704 • (608) 244-8885

LEONARD J. EDER, P. E. • FREDERICK H. INYARD, P. E. • STEPHEN J. OSMUNDSEN, P. E. • GARY A. ROZMUS, P. E.
JOHN McGUIRE, P. E. • JORGE MOLINA, ING. • WILLIAM J. CUNNINGHAM, P. E. • JOSEPH B. HELLMANN, P. E.

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C882060/1 09/27/88

Commercial Envelope Mfg. Co. Inc.
900 Grand Blvd.
Deer Park, NY 11729
ATTN: Steven Kristel PO# CE 19918

SOURCE OF SAMPLE: Same as above (eptox metals)
COLLECTED BY: Client DATE COL'D:08/31/88 RECEIVED:08/31/88

SAMPLE: Ink waste comp A, drum storage

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arsenic as As		mg/L*	0.009
Barium as Ba		mg/L*	27
Cadmium as Cd		mg/L*	0.040
Chromium as Cr		mg/L*	0.30
Lead as Pb		mg/L*	1.3
Mercury as Hg		mg/L*	<0.001
Selenium as Se		mg/L*	0.005
Silver as Ag		mg/L*	0.46
Cyanide as CN		mg/L	<2
Sulfide as S		mg/L	<2
Flash Point	deg C		>95**
pH	units		7.2

cc: Jim Valenti, Eder Assoc.

REMARKS: *Analysis performed on EP Extract according to USEPA EP Toxicity procedure (40 CFR Part 261-Appen. II).
**Sample boiled at 95 degrees C, with no flash.

009

DIRECTOR

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C882060/2 09/27/88

Commercial Envelope Mfg. Co. Inc.
900 Grand Blvd.
Deer Park, NY 11729
ATTN: Steven Kristel PO# CE 19918

SOURCE OF SAMPLE: Same as above (eptox metals)
COLLECTED BY: Client DATE COL'D:08/31/88 RECEIVED:08/31/88

SAMPLE: Ink waste comp B, drum storage

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arsenic as As		mg/L*	<0.005
Barium as Ba		mg/L*	7.3
Cadmium as Cd		mg/L*	0.25
Chromium as Cr		mg/L*	0.33
Lead as Pb		mg/L*	0.21
Mercury as Hg		mg/L*	<0.001
Selenium as Se		mg/L*	<0.025
Silver as Ag		mg/L*	0.04
Cyanide as CN		mg/L	<2
Sulfide as S		mg/L	<2
Flash Point	deg C		>94**
pH	units		4.9

cc: Jim Valenti, Eder Assoc.

REMARKS: *Analysis performed on EP Extract according to USEPA EP Toxicity procedure (40 CFR Part 261-Appen. II).
**Sample boiled at 94 degrees C, with no flash.

010 DIRECTOR Thomas R. Hunt

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTIN

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C882060/3 09/27/88

Commercial Envelope Mfg. Co. Inc.
900 Grand Blvd.
Deer Park, NY 11729
ATTN: Steven Kristel PO# CE 19918

SOURCE OF SAMPLE: Same as above (eptox metals)
COLLECTED BY: Client DATE COL'D:08/31/88 RECEIVED:08/31/88

SAMPLE: Ink waste comp C, drum storage

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arsenic as As		mg/L*	<0.005
Barium as Ba		mg/L*	0.5
Cadmium as Cd		mg/L*	0.36
Chromium as Cr		mg/L*	0.27
Lead as Pb		mg/L*	1.0
Mercury as Hg		mg/L*	0.001
Selenium as Se		mg/L*	<0.025
Silver as Ag		mg/L*	0.04
Cyanide as CN		mg/L	<2
Sulfide as S		mg/L	<2
Flash Point	deg C		>90**
pH	units		4.9

cc: Jim Valenti, Eder Assoc.

REMARKS: *Analysis performed on EP Extract according to USEPA EP Toxicity procedure (40 CFR Part 261-Appen. II).
**Sample boiled at 90 degrees C, with no flash.

011 DIRECTOR

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTIN

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C882060/4 09/27/88

Commercial Envelope Mfg. Co. Inc.
900 Grand Blvd.
Deer Park, NY 11729
ATTN: Steven Kristel PO# CE 19918

SOURCE OF SAMPLE: Same as above (eptox metals)
COLLECTED BY: Client DATE COL'D:08/31/88 RECEIVED:08/31/88

SAMPLE: Ink waste comp D, drum storage

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arsenic as As		mg/L*	<0.005
Barium as Ba		mg/L*	0.72
Cadmium as Cd		mg/L*	0.002
Chromium as Cr		mg/L*	0.02
Lead as Pb		mg/L*	<0.01
Mercury as Hg		mg/L*	<0.001
Selenium as Se		mg/L*	<0.005
Silver as Ag		mg/L*	<0.01
Cyanide as CN		mg/Kg	<2
Sulfide as S		mg/Kg	<2
Flash Point	deg C		>64**
pH	units		6.0

cc:Jim Valenti, Eder Assoc.

REMARKS: *Analysis performed on EP Extract according to USEPA EP Toxicity procedure (40 CFR Part 261-Appen.II).
**Sample boiled at 64 degrees C, with no flash.

012

DIRECTOR

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTIN*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C082060/5 09/27/88

Commercial Envelope Mfg. Co. Inc.
900 Grand Blvd.
Deer Park, NY 11729
ATTN: Steven Kristel PO# CE 19918

SOURCE OF SAMPLE: Same as above (eptox metals)
COLLECTED BY: Client DATE COL'D:08/31/88 RECEIVED:08/31/88

SAMPLE: Ink waste comp E, drum storage

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Arsenic as As	mg/L*	<0.005
Barium as Ba	mg/L*	0.18
Cadmium as Cd	mg/L*	0.17
Chromium as Cr	mg/L*	870
Lead as Pb	mg/L*	0.13
Mercury as Hg	mg/L*	0.00095
Selenium as Se	mg/L*	<0.025
Silver as Ag	mg/L*	0.03
Cyanide as CN	mg/L	<2
Sulfide as S	mg/L	<2
Flash Point	deg C	>94**
pH	units	3.9

cc: Jim Valenti, Eder Assoc.

REMARKS: *Analysis performed on EP Extract according to USEPA EP Toxicity procedure (40 CFR Part 261-Appen. II).
**Sample boiled at 94 degrees C, with no flash.

DIRECTOR [signature]

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTIN

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C882153/1

10/07/88

Commercial Envelope Mfg. Co., Inc.
900 Grand Blvd.
Deer Park, NY 11729
ATTN: Steven Kristel

PO# 20100

SOURCE OF SAMPLE: Project # 525-1 (eptox metals)
COLLECTED BY: Client DATE COL'D: RECEIVED: 09/13/88

SAMPLE: Drum comp. A

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arsenic as As	mg/L*	<0.005	
Barium as Ba	mg/L*	0.39	
Cadmium as Cd	mg/L*	0.014	
Chromium as Cr	mg/L*	0.98	
Lead as Pb	mg/L*	0.032	
Mercury as Hg	mg/L*	0.0023	
Selenium as Se	mg/L*	<0.005	
Silver as Ag	mg/L*	<0.01	
Cyanide as CN	mg/L	27	
Sulfide as S	mg/L	<2	
Flash Point	deg C	>80**	
pH	units	4.5	

RECEIVED
AT EA
OCT 12 1988
FILE NO.
LJE FHI
SJO GAR
WJC
OTHER JEV

cc: Eder Assoc., James Valenti

REMARKS: *Analysis performed on EP Extract according to USEPA EP Toxicity procedure (40 CFR Part 261-Appen. II).
**Sample boiled at 80 degrees C, with no flash.

014

DIRECTOR

rn= 8714

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C882153/2 10/07/88

Commercial Envelope Mfg. Co., Inc.
900 Grand Blvd.
Deer Park, NY 11729
ATTN: Steven Kristel PO# 20100

SOURCE OF SAMPLE: Project # 525-1 (eptox metals)
COLLECTED BY: Client DATE COL'D: RECEIVED: 09/13/88

SAMPLE: Drum comp ~~X~~ B

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arsenic as As	mg/L*	<0.005	
Barium as Ba	mg/L*	0.24	
Cadmium as Cd	mg/L*	<0.001	
Chromium as Cr	mg/L*	0.05	
Lead as Pb	mg/L*	0.12	
Mercury as Hg	mg/L*	<0.001	
Selenium as Se	mg/L*	<0.005	
Silver as Ag	mg/L*	<0.01	
Cyanide as CN	mg/L	<2	
Sulfide as S	mg/L	<2	
Flash Point	deg C	>100	
pH	units	5.0	

cc: Eder Assoc., James Valenti

REMARKS: *Analysis performed on EP Extract according to USEPA EP Toxicity procedure (40 CFR Part 261-Appen. II).

015

DIRECTOR Thomas R. Stutt

rn= 8715

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTIN

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C882153/3 10/07/88

Commercial Envelope Mfg. Co., Inc.
900 Grand Blvd.
Deer Park, NY 11729
ATTN: Steven Kristel PO# 20100

SOURCE OF SAMPLE: Project # 525-1 (eptox metals)
COLLECTED BY: Client DATE COL'D: RECEIVED: 09/13/88

SAMPLE: Drum comp. SC

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arsenic as As	mg/L*	<0.005	
Barium as Ba	mg/L*	0.30	
Cadmium as Cd	mg/L*	0.046	
Chromium as Cr	mg/L*	0.06	
Lead as Pb	mg/L*	0.050	
Mercury as Hg	mg/L*	0.0027	
Selenium as Se	mg/L*	<0.005	
Silver as Ag	mg/L*	0.01	
Cyanide as CN	mg/L	<2	
Sulfide as S	mg/L	<2	
Flash Point	deg C	>100	
pH	units	9.2	

cc: Eder Assoc., James Valenti

REMARKS: *Analysis performed on EP Extract according to USEPA EP Toxicity procedure (40 CFR Part 261-Appen. II).

016 DIRECTOR Thomas R. Stoutt

rn= 8716

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTI

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C882153/4

10/07/88

Commercial Envelope Mfg. Co., Inc.
900 Grand Blvd.
Deer Park, NY 11729
ATTN: Steven Kristel

PO# 20100

SOURCE OF SAMPLE: Project # 525-1 (eptox metals)
COLLECTED BY: Client DATE COL'D: RECEIVED:09/13/88

SAMPLE: Drum comp. SD

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arsenic as As	mg/L*	<0.005	
Barium as Ba	mg/L*	<0.05	
Cadmium as Cd	mg/L*	0.022	
Chromium as Cr	mg/L*	0.05	
Lead as Pb	mg/L*	0.014	
Mercury as Hg	mg/L*	0.0018	
Selenium as Se	mg/L*	<0.005	
Silver as Ag	mg/L*	<0.01	
Cyanide as CN	mg/L	<2	
Sulfide as S	mg/L	<2	
Flash Point	deg C	>100	
pH	units	8.1	

cc:Eder Assoc., James Valenti

REMARKS: *Analysis performed on EP Extract according to USEPA EP Toxicity procedure (40 CFR Part 261-Appen. II).

017

DIRECTOR

rn= 8717

EcoTest Laboratories Inc
377 Sheffield Ave
North Babylon NY 11703
516 422-5777

LAB NO. C882352 10/25/88

Eder Associates, Consulting Engineers P.C
85 Forest Avenue
Locust Valley, NY 11560
ATTN:

SOURCE OF SAMPLE: Commercial Envelope
COLLECTED BY: Client DATE COL'D: RECEIVED: 10/04/88

SAMPLE: Drums 21-25, comp E-2

ANALYTICAL PARAMETERS			
Arsenic as As		mg/L*	<0.005
Barium as Ba		mg/L*	<0.05
Cadmium as Cd		mg/L*	0.007
Chromium as Cr		mg/L*	20
Lead as Pb		mg/L*	0.70
Mercury as Hg		mg/L*	<0.001
Selenium as Se		mg/L*	<0.005
Silver as Ag		mg/L*	<0.01
Cyanide as CN		mg/L	28
Sulfide as S		mg/L	3.2
Flash Point	deg C		58
pH	units		4.0

ANALYTICAL PARAMETERS

cc:

REMARKS: *Analysis performed on EP Extract according to USEPA EP Toxicity procedure (40 CFR Part 261-Appen. II).

REFERENCE NO. 6

WESTON

PROJECT NOTE

TO: Commercial Envelope Mfg. Co., Inc. file

DATE: 28 June 1994

FROM: D. D Minsavage

W.O. NO.: 04200-022-081-0006-02

SUBJECT: CEM's incinerator.

Attached are several documents refering to CEM's on site incinerator and its use in disposing of/destroying wastewater.

DDM

February 20, 1986
File #525-1

eder associates
consulting engineers, p.c.

Mr. Joseph Fichera
New York State Department
of Environmental Conservation
Building 40
SUNY
Stony Brook, New York 11794

Re: Commercial Envelope Manufacturing Company
Deer Park, New York

Dear Mr. Fichera:

Commercial Envelope Manufacturing Company (CEM) is engaged in the business of producing and printing envelopes. An industrial wastewater is generated and incinerated on-site.

In April 1985, CEM filed a "Process, Exhaust or Ventilation System Application For a Certificate to Operate" the on-site incinerator. The application was submitted to the Suffolk County Department of Health Services (SCDHS) for review and approval.

I am enclosing an evaluation of CEM's wastewater streams which indicates that they are not hazardous within the meaning and intent of New York regulations. If NYSDEC concurs, CEM should be allowed to use the on site incinerator to dispose of its wastewater.

I am now requesting that NYSDEC review the attached documentation and determine whether: 1) the wastewater is a hazardous waste; and 2) whether a Part 370 Permit is required for the incinerator.

Please advise me of your decision in writing.

If you have any questions, please contact our office.

Thank you for your cooperation and timely response to this question.

Very truly yours,

EDER ASSOCIATES CONSULTING ENGINEERS, P.C.

Nicholas A. Andrianas

Nicholas A. Andrianas
Project Engineer

NAA/tg
Attmt.

cc: S. Cohen
J. Williams

85 FOREST AVENUE • LOCUST VALLEY, NEW YORK 11560 • (516) 671-8440
LEONARD J. EDER, P. E. • FREDERICK H. INYARD, P. E. • STEPHEN J. OSMUNDSEN, P. E. • GARY A. ROZMUS, P. E.
JOHN McGUIRE, P. E. • JORGE MOLINA, ING. • WILLIAM J. CUNNINGHAM, P. E. • JOSEPH B. HELLMANN, P. E.

ATTACHMENT A

Eder Associates' review of Commercial Envelope Manufacturing Company (CEM) operations supplemented by chemical data furnished by others indicates that wastewater generated at the facility is not hazardous.

Wastewater Generation and Storage

CEM produces and prints envelopes. The majority of inks utilized at the facility are water based. A small percentage of alcohol (ethanol) based inks are also used. There are two sources of wastewater at the CEM facility: 1) the printing equipment wash stations; and 2) the developing and plate making rooms. The printing equipment wash stations are mainly used to clean equipmment when changing ink colors and include two wash sinks and an ink pot washing machine. Ink pots and printing equipment are washed with water at these stations. The ink pots and printing equipment are rinsed with ethanol when alcohol based inks are used. The washwater is pumped to a 2,000 gallon aboveground holding tank in the plant. The washwater is pumped to the incinerator on a batch basis.

The facility uses water based glues. Glue rollers are washed with water at the glue machines. This washwater is collected in small containers and manually transferred to the printing equipment wash stations, from which it is pumped to the 2,000 gallon wastewater holding tank.

Wastewater generated by rinsing operations in the plate making and developing rooms consists mainly of water with traces of inorganic salts, polymer, detergent and isopropyl alcohol. These constituents are derived from the plate making developer and gum raw materials. The wastewater drains by gravity to a collection sump in the plate making room. An automatic sump pump transfers the wastewater to the 2,000 gallon holding tank.

Wastewater Sampling

Representative wastewater samples from the 2,000 gallon holding tank were collected by H2M/Holzmacher, McLendon and Murrell P.C. (Melville, New York) during December 1984 and February 1985. According to plant personnel, the processes generating the wastewater have not been changed since the samples were collected. Therefore, the samples would be representative of wastewater presently generated and stored in the 2,000 gallon holding tank.

Wastewater Characterization

The waste generation processes were reviewed to determine whether the waste is a listed waste as defined in Section 371.4 of 6NYCRR part 371 "Identification and Listing of Hazardous Wastes" or a mixture of a solid waste and a listed waste as defined in Section 371.1 (d)(1)(ii)(c) and (d). The wastewater generated at the site is not a listed waste. The EP toxic metals which characterize raw materials and waste are limited to cadmium, chromium, lead and silver.

Although the wastewater is not a listed hazardous waste, it could be hazardous if it exhibits the waste characteristics defined in Section 371.3. The samples collected by H2M were analyzed by the H2M Laboratory. The parameters that were analyzed included the EP toxic metals present in the wastewater and pH. Based on the nature of the processes generating the waste, the wastewater should not exhibit the characteristics of ignitability or reactivity, and these characteristics were not evaluated.

The results of the EP toxicity tests and pH analyses are presented in Table 1. Documentation of the laboratory analyses is enclosed with this attachment. The wastewater sample is identified on the December 4, 1984 laboratory report as Sample ID No. 2 "Tank Waste". Samples identified as ID No. 1, "Developer Rinse" and ID No. 3, "Wash Station" are samples of the wastewaters that are transferred to and stored in

the 2,000 gallon wastewater holding tank. The wastewater samples are identified as "Wastewater Holding Tank" on each of the February 1985 laboratory reports. Based on the test results in Table 1, the wastewater is neither an EP toxic, nor a corrosive hazardous waste.

Based on the process operations generating the wastewater at the CEM plant and the wastewater sample results, the wastewater is not a listed waste nor does it exhibit the characteristics of hazardous waste. In our judgement, the wastewater is not a hazardous waste.

COMMERCIAL ENVELOPE MANUFACTURING COMPANY
DEER PARK, NEW YORK

TABLE 1

RESULTS OF WASTEWATER ANALYSES DONE BY H2M CORPORATION

EP Tox

Parameter		Concentration mg/l			
		December 4, 1984	February 8, 1985	February 11, 1985	February 15, 1985
Cadmium	1.0	0.10	LT 0.02	LT 0.02	0.0016
Chromium (T)	5.0	0.70	0.12	0.07	0.03
Lead	5.0	3.00	0.114	0.238	0.0228
Silver	5.0	2.80	0.48	0.06	0.29

Legend:

LT = less than

H2M
Environmental Engineers & Scientists
HOLZMACHER, McLENDON and MURRELL, P.C.
575 BROAD HOLLOW ROAD, MELVILLE, NEW YORK 11747 (516) 694-3040
WATER RESOURCES • WATER SUPPLY & TREATMENT • SEWERAGE & TREATMENT • ECOLOGICAL & IMPACT STUDIES
MODEL STUDIES • PILOT PLANT STUDIES • WATER/WASTE WATER LABORATORY AND ANALYTICAL SERVICES

LABORATORY REPORT

LAB NO. 466475
PROJECT NO. CEMC 84-01 MS

CLIENT'S NAME AND ADDRESS

COMMERICAL ENVELOPE INC.
900 GRAND BLVD
DEER PARK, NY

TYPE OF SAMPLE - MISCELLANEOUS
DATE COLLECTED - 12/ 4/84
COLLECTED BY RSI 03
DATE RECEIVED - 12/ 4/84

SPECIAL SAMPLES

LAB NO.	SAMPLE ID INFORMATION	PH	SILVER	CADMIUM	COPPER	NICKEL	CHROMIUM
466475	#1 - DEVELOPER RINSE	5.60	<0.02				
466476	#2 -TANK WASTE	6.80	2.80	0.10	31.2	0.30	0.70
466477	#3 - WASH STATION	12.2	4.00	0.10	32.9	0.30	0.80
466478	#4 - TRUCK BAY	4.40	2.30	<0.10	5.50	0.40	0.20
466479	#5 - POOL SAMPLE	6.10	<0.20	<0.10	0.60	0.20	<0.20

From TANKS

MAXIMUM READINGS

REMARKS - REPORTS & INVOICES TO RSI
COPIES TO HDF 03

ALL RESULTS IN (MG/L) EXCEPT AS NOTED BY # (UG/L) OR % (PERCENT) AND
T.COLI BACT. & FECAL COLI (MPN/100ML)
COLOR, ODOR, TURBIDITY & PH (UNITS)
APC & FECAL STREP (COUNTS/ML)

DATE REPORTED 12/12/84

H2M
Environmental Engineers & Scientists
HOLZMACHER, McLENDON and MURRELL, P.C.
575 BROAD HOLLOW ROAD, MELVILLE, NEW YORK 11747 (516) 694-3040

WATER RESOURCES • WATER SUPPLY & TREATMENT • SEWERAGE & TREATMENT • ECOLOGICAL & IMPACT STUDIES
MODEL STUDIES • PILOT PLANT STUDIES • WATER/WASTE WATER LABORATORY AND ANALYTICAL SERVICES

LABORATORY REPORT

LAB NO. 466475
PROJECT NO. CEMC 84-01 MS

CLIENT'S NAME AND ADDRESS

COMMERICAL ENVELOPE INC.
900 GRAND BLVD
DEER PARK, NY

TYPE OF SAMPLE - MISCELLANEOUS
DATE COLLECTED - 12/ 4/84
COLLECTED BY RSI 03
DATE RECEIVED - 12/ 4/84

SPECIAL SAMPLES

LAB NO.	SAMPLE ID INFORMATION	LEAD	IRON
466475	#1 - DEVELOPER RINSE		
466476	#2 -TANK WASTE	3.00	193.
466477	#3 - WASH STATION	1.00	6.20
466478	#4 - TRUCK BAY	1.00	30.5
466479	#5 - POOL SAMPLE	<0.20	

REMARKS - REPORTS & INVOICES TO RSI
COPIES TO HDF 03

ALL RESULTS IN (MG/L) EXCEPT AS NOTED BY # (UG/L) OR % (PERCENT) AND
T.COLI BACT, & FECAL COLI (MPN/100ML)
COLOR, ODOR, TURBIDITY & PH (UNITS)
APC & FECAL STREP (COUNTS/ML)

DATE REPORTED 12/12/84

H2M
Environmental Engineers & Scientists
HOLZMACHER, McLENDON and MURRELL, P.C.
575 BROAD HOLLOW ROAD, MELVILLE, NEW YORK 11747 (516) 694-3040
WATER RESOURCES • WATER SUPPLY & TREATMENT • SEWERAGE & TREATMENT • ECOLOGICAL & IMPACT STUDIES
MODEL STUDIES • PILOT PLANT STUDIES • WATER/WASTE WATER LABORATORY AND ANALYTICAL SERVICES

LABORATORY REPORT

LAB NO. 851226
PROJECT NO. CENC 84-01

CLIENT'S NAME AND ADDRESS

COMMERCIAL ENVELOPE, INC.
900 GRAND BLVD.
DEER PARK, N.Y. 11729

TYPE OF SAMPLE - MISCELLANEOUS
DATE COLLECTED - 2/ 8/85
COLLECTED BY RSI 03
DATE RECEIVED - 2/ 8/85

WASTEWATER HOLDING TANK

PARAMETER	RESULT	PARAMETER	RESULT
PH	4.90	CHLORIDE	80.0
SILVER	0.48	OIL & GREASE	95.4
CADMIUM	<0.02	PHENOLS	1.60
LEAD	114.8	ZINC	1.41
COPPER	0.97		
CHROMIUM	0.12		
IRON	6.90		
T. DISS SOLIDS	1210		
SUSP. SOLIDS	1770		

MG/L

REMARKS - RPTS. & INVOICES TO RSI
RUSH, NEED BY 2/15/85

ALL RESULTS IN (MG/L) EXCEPT AS NOTED BY # (UG/L) OR % (PERCENT) AND
T.COLI BACT. & FECAL COLI (MPN/100ML)
COLOR, ODOR, TURBIDITY & PH (UNITS)
APC & FECAL STREP (COUNTS/ML)
SPEC.COND. (UMHOS) SETT.SOLIDS(ML/L)

DATE REPORTED 2/25/85

H2M
Environmental Engineers & Scientists
HOLZMACHER, McLENDON and MURRELL, P.C.
575 BROAD HOLLOW ROAD, MELVILLE, NEW YORK 11747 (516) 694-3040
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MODEL STUDIES • PILOT PLANT STUDIES • WATER/WASTE WATER LABORATORY AND ANALYTICAL SERVICES

LABORATORY REPORT

LAB NO. 551292
PROJECT NO. CEMC 84-01

CLIENT'S NAME AND ADDRESS

COMMERCIAL ENVELOPE, INC.
900 GRAND BLVD
DEER PARK, NY 11729

TYPE OF SAMPLE - MISCELLANEOUS
DATE COLLECTED - 2/11/85
WASTEWATER HOLDING TANK

COLLECTED BY RSI 03
DATE RECEIVED - 2/11/85

PARAMETER	RESULT	PARAMETER	RESULT
PH	5.20	ZINC	1.18
SILVER	0.06		
CADMIUM	<0.02		
LEAD	(238.#) MG/L = .238 MG/L = PPM		
COPPER	4.13		
CHROMIUM	0.07		
IRON	6.60		
T. DISS SOLIDS	1960		
SUSP. SOLIDS	1970		

REMARKS - RPTS. & INVOICES TO RSI

RESULTS IN (MG/L) EXCEPT AS NOTED BY # (UG/L) OR % (PERCENT) AND
T.COLI BACT. & FECAL COLI (MPN/100ML)
COLOR, ODOR, TURBIDITY & PH (UNITS)
APC & FECAL STREP (COUNTS/ML)
SPEC.COND. (UMHOS) SETT.SOLIDS(ML/L)

DATE REPORTED 4/15/85

J M Slam

Environmental Engineers & Scientists
HAZLETT, FISHER, McLENDON and MURRELL, P.C.
50 HOLLS ROAD, MELVILLE, NEW YORK 11747 (516) 694-3040
WATER SUPPLY, WASTEWATER & TREATMENT, ECOLOGICAL & IMPACT STUDIES
WATER & WASTEWATER LABORATORY AND ANALYTICAL SERVICES

LABORATORY REPORT

COMMERCIAL ENVELOPE CO.
200 GRAND BLVD.
DEER PARK NY 11729

TYPE OF SAMPLE: MISCELLANEOUS
DATE COLLECTED: 2/15/05
DATE RECEIVED:
WASTEWATER HOLDING TANK

PARAMETER	RESULT	PARAMETER	RESULT
PH	10.80	ZINC	0.68
SILVER			
CADMIUM	1.20		UG/L
LEAD	22.0		UG/L
COPPER			
CHROM.			
NICKEL			
IRON			
BOD			
SOLIDS	1630		
OIL & GREASE	42.0		

REMARKS: REPORTS & INVOICES TO RAI

ALL RESULTS IN MG/L EXCEPT AS NOTED BY # (UG/L) OR % (PERCENT) AND
T. COLI. (ACT.) = FECAL COLI. (MPN/100ML)
COLOR, ODOR, TURBIDITY, PH (UNITS)
ARCH. FECAL STREP. (COUNTS/ML)
SPEC. COND. (MMHOS) SETT. SOLIDS (ML/L)

DATE REPORTED: 2/16

Division of Solid/Hazardous Waste
Building 40, SUNY
Stony Brook, New York 11794
(516) 751-2617

File

March 27, 1986

Mr. Nicholas A. Andrianas
Eder Associates
Consulting Engineers, P.C.
83 Forest Avenue
Locust Valley, New York 11560

Re: Commercial Envelope Manufacturing Company, Deer Park, New York

Dear Mr. Andrianas:

We have reviewed the documentation of the above subject facility that you sent to this office on February 21, 1986. In addition, we met with you and Alan Kristel on March 14, 1986, and saw the operation of producing and printing envelopes.

Upon further review of Part 373 regulations, we have determined the following:

1. The waste water is non-hazardous, as it is not a listed waste.
2. The waste water is non-hazardous, as it is not a characteristic waste.
3. A Part 373 permit is not required for the incinerator.

However, apparently the county had sampled the bottom of the incinerator (solid sample taken February 27, 1986) and this was analyzed. The EP Toxicity test suggests this sludge may be a characteristic waste as levels of lead were 130 ppm (greater than 5 ppm), levels of chromium were 74 ppm (greater than 5 ppm), and cadmium was 12 ppm (greater than 1 ppm). This sludge should be properly disposed of by a licensed/permitted waste hauler.

Also, we had noted on the March 14, 1986, visit that there were approximately 20-25 drums stored towards the center of the main building. Most of these drums were unmarked and could not be identified. They should be sampled, analyzed/identified, and properly disposed of by Commercial Envelope.

If you have any further questions in regards to these matters, please contact our office.

Very truly yours,

Joseph C. Fichera
Assistant Sanitary Engineer

JCF:da
cc: J. Williams, SCHD
J. Soderberg, SCHD
D. Obrig, SCHD
R. Decherer, NYSDEC

May 22, 1986
File #525-1

eder associates
consulting engineers, p.c.

Mr. Joseph Fichera
New York State Department of
Environmental Conservation
Building 40
SUNY
Stonybrook, New York 11794

Re: Commercial Envelope Manufacturing Company
Deer Park, New York
Request For Hazardous Waste Identification

Dear Mr. Fichera:

Commercial Envelope Manufacturing Company (CEM) abandoned three (3) ink waste tanks, per Article 12 of the Suffolk County Sanitary Code, in April, 1986. These tanks contained industrial wastewater generated from producing and printing envelopes. Prior to abandonment, the wastewater was collected and is being stored on-site in 180, 55-gallon drums.

Enclosed are the results of the analyses of this wastewater. One liquid sample was collected from each of the three tanks. The samples are identified as Liquid 01, 02 and 03 in the laboratory report. The laboratory report includes analysis of the characteristics of hazardous waste and of suspected organic contaminants. The analytical results indicate that the wastewater is not hazardous within the meaning and intent of the New York State Regulations. CEM would like to use its on-site liquid incinerator to dispose of this wastewater.

We are requesting that NYSDEC review the attached documentation and determine whether: (1) the wastewater is a hazardous waste; and (2) whether a Part 370 Permit is required for the on-site incineration of this waste.

The Suffolk County Department of Health Services requires a determination as to whether a Part 370 Permit is required. This determination is required, since we are concurrently applying for a "Certificate to Operate", a process and exhaust and/or ventilation system pursuant to 6NYCRR Part 201, for incineration of this wastewater.

The removal of the wastewater from the tanks and the abandonment of the tanks was performed under a Consent Order between CEM and Suffolk County. An expeditious response by your office to resolve this matter would be appreciated. For your assistance, a copy of this letter is being forwarded to Mr. Jim Moran of the New York State Department of Environmental Conservation in Albany for review by the hazardous waste identification staff.

Continued . . .

85 FOREST AVENUE • LOCUST VALLEY, NEW YORK 11560 • (516) 671-8440
LEONARD J. EDER, P. E. • FREDERICK H. INYARD, P. E. • STEPHEN J. OSMUNDSEN, P. E. • GARY A. ROZMUS, P. E.
JOHN McGUIRE, P. E. • JORGE MOLINA, ING. • WILLIAM J. CUNNINGHAM, P. E. • JOSEPH B. HELLMANN, P. E.

Mr. Joseph Fichera
New York State Department of
Environmental Conservation
May 22, 1986

Please forward your response to our request in writing to our office and to:

Jeffrey K. Williams
Suffolk County Department of
Health Services
Assistant Public Health Engineer
Pollution Control
15 Horseblock Place
Farmingville, New York 11738

We thank you in advance for your timely response to our request. If you have any questions, please contact our office.

Very truly yours,

EDER ASSOCIATES CONSULTING ENGINEERS, P.C.

Nicholas A. Andrianas
Project Engineer

NAA/td
Enc.

cc: S. Cohen
J. Moran
J. Williams

nytest environmental inc.

REPORT OF TESTS

Date: May 16, 1986

Lab. No.: 86-11915(A)

Client	Eder Associates
Material	Three (3) Solid & Three (3) Liquid Samples
Identification	See the Following Page (Samples Received 3/20/86)
Client's Order No.	Pending
Submitted for	Chemical Analysis

(For Results, see the following page)

Report reviewed by:

Adrian D'Netto
GCMS Supervisor

Report reviewed by:

Peggy Sacks PS
Q.C. Manager

To:

Eder Associates
85 Forest Avenue
Locust Valley, N.Y. 11560

Att: Mr. Gregory Rorech

ef
Encl.: (Chain of Custody)

CERTIFICATION

We certify that this report is a true report of results obtained from our tests of this material.

Respectfully submitted,

Nytest Environmental Inc.

Remo Gigante, Laboratory Director

Lab. No. 86-11915(A)

Results in ppb	Sample Identification 01 Liquid	02 Liquid	03 Liquid	04 Soil	05 Soil	06 Soil
Trans-1,2-Dichloroethylene	ND	ND	ND	ND	ND	ND
Cis-1,2-Dichloroethylene	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND
Nonane	19340	5040	ND	ND	ND	ND
Undecane	ND	33804	ND	124	9623	ND
1,1,2-Trichloroethylene	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	9313	7728	2630	ND	ND	ND
1,2,4,5-Tetramethylbenzene	4151	3753	1095	ND	ND	ND
Tetrachloroethylene	28	12	19	ND	ND	ND
Toluene	ND	ND	ND	ND	205	ND
Total Xylenes	ND	ND	ND	ND	ND	ND
Decane	59703	38836	ND	207	3642	ND
Methylene Chloride	39	3	94	800	ND	809
p-Ethyl toluene	ND	ND	1994	ND	ND	ND
1,2,4-Trimethylbenzene	19196	18031	ND	ND	ND	ND
p-Diethylbenzene	ND	ND	ND	ND	ND	ND

ND = None Detected

nytest environmental inc.

CHAIN OF CUSTODY RECORD

PROJECT NO.: 525-1
PROJECT NAME: Commercial Envelope
CLIENT NAME: Eder Associates
LAB.#:

SAMPLE I.D. NO.	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NO. OF CONTAINERS	NITROGEN	OIL & GREASE	CYANIDE	PHENOL	VOLATILE	METALS	ORGANICS	BACTERIAL	TOC COD	OTHER	UNPRESERVED	REMARKS
01	3-17-86	9:10AM		X	Tank One	5					X	X			X			Reactivity, Corrosivity, Ignitability, EP tox metals, Trans-1,2-Dichloroethylene, 1,2-Dichloroethylene, Ethylbenzene, 1,1,2-Trichloroethylene, ~~1,3,5-Trimethylbenzene~~, 1,2,4,5-Tetraethylbenzene, Toluene, Tetrachloroethylene, Xylene, Methylene Chloride, p-Ethyltoluene, p-diethylbenzene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Naphthalene, Decane, Undecane
02	3-18-86	2:55pm		X	Tank Two	5					X	X			X			
03	3-17-86	12:05pm		X	Tank Three	5					X	X			X			
04	3-17-86	11:15AM	X		Tank One	3					X	X			X			
05	3-20-86	9:50AM	X		Tank Two	3					X	X			X			
06	3-17-86	12:40pm	X		Tank Three	3					X	X			X			

Shipped Via:

Relinquished by (Signature): Gregory Roreck	Date/Time: 3-20-86 | 1:15	Agent of: Eder Associates	Rec'd. by (Signature): Bennett Merkoff
Printed Name: Gregory Roreck			Printed Name: Ben Merkoff
Relinquished by (Signature): Ben Merkoff	Date/Time: 3-20-86 | 2:01 ~~2:15~~	Agent of: Eder Associates	Rec'd. by (Signature):
Printed Name: Ben Merkoff			Printed Name: Derwin Davis
Relinquished by (Signature):	Date/Time: 3/20/86	Received for Laboratory by: (Signature) Caroline Paul	Date/Time: 3.20.86 | 5:40pm
Printed Name: Derwin Davis		Printed Name: Caroline Paul	
Sampler (Signature):		Samplers Name (Print):	

Date/Time	Agent of:
3/20/86 | 1:15	Eder Assc.
3/20/86 | 7:01	Nytest

Remarks: Gregory Roreck

671-8440

018

nytest environmental

LAB. NO.: 86-11915(B)

P.O. NO.: Pending

REPORT OF ANALYSIS

- FOR -

EDER ASSOCIATES
85 FOREST AVENUE
LOCUST VALLEY, NY 11560

MAY 16, 1986

019

p.o. box 1021 • 75 urban avenue westbury n.y. 11590 • (516) 334/7770 (718) 297/1449

Page CONTENTS Lot No. 86-11915(B)

TABLE OF CONTENTS

		Page No.
1.0	REFERENCES	1
2.0	TEST DESCRIPTION	1 - 2
3.0	TEST REQUIREMENTS	2
4.0	SAMPLE IDENTIFICATION	2
5.0	SAMPLE IDENTIFICATION AND RESULTS	3 - 8
6.0	CONCLUSION	9
7.0	CERTIFICATION AND SIGNATURES	9

p.o. box 1021 ▫ 75 urban avenue, westbury, n.y. 11590 ▫ (516) 334/7770, (718) 297/1449

1.0 References

1.1 Client purchase order number: Pending

1.2 Lab. No. 86-11915(B)

1.3 Identification and listing of Hazardous Waste. Federal Register, Vol. 45 No. 98, May 19, 1980

1.4 Handbook for analytical Quality Control in Water-Wastewater Laboratories - EPA-600/4-79-019, March, 1979

2.0 Description of Tests

2.1 Ignitability: Ref. 1.3 para. 261.21

Identifies materials that pose a fire hazard due to being ignitable under routine storage, disposal, and transportation. This characteristic is measured by the closed cup flash point.

Wastes exhibiting flash point below 60°C (140°F) must be handled as hazardous waste.

2.2 Corrosivity: Ref. 1.3 para. 261.22

Identifies materials which require special containers and handling because of their ability to corrode standard materials. Aqueous samples are considered corrosive if the pH is less than or equal to 2.0, or greater than or equal to 12.5. Any liquid sample which is capable of corroding SAE 1020 steel at a rate greater than 0.25 inches per year at a test temperature of 55°C (130°F) is considered corrosive.

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2.0 Description of Tests

2.3 Reactivity: Ref. 1.3 para 261.23

Identifies materials that tend to react spontaneously, to react vigorously with air or water, or are explosive.

2.4 E P Toxicity: Ref. 1.3 para. 261.24

Identifies materials whose constituents may have a tendency to leach or migrate when disposed of improperly. The liquid phase of a sample is separated. The solid phase is extracted at pH 5 with aqueous acetic acid for 24 hours. The extract is combined with the liquid phase and analyzed.

3.0 Test Requirements

1. Corrosivity
2. Ignitability
3. Reactivity
4. E P Toxicity - Table 1

4.0 Sample Identification

Submitted samples of liquid and soil received 3/20/86 and identified as:

01 Liquid	Tank One
02 Liquid	Tank Two
03 Liquid	Tank Three
04 Soil	Tank One
05 Soil	Tank Two
06 Soil	Tank Three

po box 1021 ▫ 75 urban avenue, westbury, ny 11590 ▫ (516) 334/7770, (718) 297/1449

5.0 Sample Identification and Results

5.1 Sample Marked 01 Liquid

Date sampled: 3/17/86

Collected by: Eder Associates

Date Received by Nytest Environmental Inc.: 3/20/86

5.1.1 Results	Max. Allowable Levels	Found
pH @ 20°C	2-12.5	7.90
Reactivity to Sulfide, ppm	-	< 1
Reactivity to Cyanide, ppm	-	< 1
Corrosivity inches/year	0.25	< 0.01
Ignitability °F, PM	140	>212

E P Toxicity (PPM)

Arsenic	5.0	< 0.05
Barium	100.0	< 1.0
Cadmium	1.0	< 0.01
Chromium	5.0	< 0.05
Lead	5.0	< 0.05
Mercury	0.2	< 0.02
Selenium	1.0	< 0.01
Silver	5.0	< 0.05

< = Less than

> = Greater than

5.0 Sample Identification and Results

5.2 Sample Marked 02 Liquid

Date sampled: 3/17/86

Collected by: Eder Associates

Date Received by Nytest Environmental Inc.: 3/20/86

5.2.1 Results	Max. Allowable Levels	Found
pH @ 20°C	2-12.5	7.60
Reactivity to Sulfide, ppm	-	< 1
Reactivity to Cyanide, ppm	-	< 1
Corrosivity inches/year	0.25	< 0.01
Ignitability °F, PM	140	>212

E P Toxicity (PPM)

Arsenic	5.0	< 0.05
Barium	100.0	< 1.0
Cadmium	1.0	< 0.01
Chromium	5.0	< 0.05
Lead	5.0	< 0.05
Mercury	0.2	< 0.02
Selenium	1.0	< 0.01
Silver	5.0	< 0.05

< = Less than

> = Greater than

Lab. No. 86-11915(B)

5.0 Sample Identification and Results

5.3 Sample Marked 03 Liquid

Date sampled: 3/17/86

Collected by: Eder Associates

Date Received by Nytest Environmental Inc.: 3/20/86

5.3.1 Results	Max. Allowable Levels	Found
pH @ 20°C	2-12.5	8.10
Reactivity to Sulfide, ppm	-	< 1
Reactivity to Cyanide, ppm	-	< 1
Corrosivity inches/year	0.25	< 0.01
Ignitability °F, PM	140	>212

E P Toxicity (PPM)

Arsenic	5.0	< 0.05
Barium	100.0	< 1.0
Cadmium	1.0	< 0.01
Chromium	5.0	< 0.05
Lead	5.0	< 0.05
Mercury	0.2	< 0.02
Selenium	1.0	< 0.01
Silver	5.0	< 0.05

< = Less than

> = Greater than

5.0 Sample Identification and Results

5.4 Sample Marked 04 Soil

Date Sampled: 3/17/86

Collected by: Eder Associates

Date Received by Nytest Environmental Inc.: 3/20/86

5.4.1 Results	Max. Allowable Levels	Found
pH @ 20°C	2-12.5	9.0
Reactivity to Sulfide, ppm	-	< 1
Reactivity to Cyanide, ppm	-	< 1
Corrosivity inches/year	0.25	< 0.01
Ignitability °F, PM	140	>212
E P Toxicity (PPM)		
Arsenic	5.0	< 0.05
Barium	100.0	1.16
Cadmium	1.0	< 0.01
Chromium	5.0	< 0.05
Lead	5.0	4.36
Mercury	0.2	< 0.02
Selenium	1.0	< 0.01
Silver	5.0	< 0.05

< = Less than

> = Greater than

Page 7

Lab No. 86-11915(B)

5.0 Sample Identification and Results

5.5 Sample Marked 05 Soil

Date sampled: 3/17/86

Collected by: Eder Associates

Date Received by Nytest Environmental Inc.: 3/20/86

5.5.1 Results	Max. Allowable Levels	Found
pH @ 20°C	2-12.5	7.4
Reactivity to Sulfide, ppm	-	< 1
Reactivity to Cyanide, ppm	-	< 1
Corrosivity inches/year	0.25	< 0.01
Ignitability °F, PM	140	>212

E P Toxicity (PPM)

Arsenic	5.0	< 0.05
Barium	100.0	< 1.0
Cadmium	1.0	< 0.01
Chromium	5.0	< 0.05
Lead	5.0	1.11
Mercury	0.2	< 0.02
Selenium	1.0	< 0.01
Silver	5.0	< 0.05

< = Less than
> = Greater than

P.O. Box 307 Fourteen Avenue Westbury, NY 11590 (516)334/7770 (718)297/1449

5.0 Sample Identification and Results

5.6 Sample Marked 06 Soil

Date sampled: 3/17/86

Collected by: Eder Associates

Date Received by Nytest Environmental Inc.: 3/20/86

5.6.1 Results	Max. Allowable Levels	Found
pH @ 20°C	2-12.5	8.5
Reactivity to Sulfide, ppm	-	< 1
Reactivity to Cyanide, ppm	-	< 1
Corrosivity inches/year	0.25	< 0.01
Ignitability °F, PM	140	>212

E P Toxicity (PPM)

Arsenic	5.0	< 0.05
Barium	100.0	< 1.0
Cadmium	1.0	< 0.01
Chromium	5.0	< 0.05
Lead	5.0	0.14
Mercury	0.2	< 0.02
Selenium	1.0	< 0.01
Silver	5.0	< 0.05

< = Less than

> = Greater than

6.0 CONCLUSION

Samples do not exhibit characteristics of reactivity, corrosivity, ignitability or toxicity for metals.

7.0 CERTIFICATION AND SIGNATURES

Report prepared by:

Adrian D'Netto
GCMS Supervisor

Report reviewed by:

Peggy Sacks PS
Q.C. Manager

Att: Mr. Gregory Rorech

bm

We certify that this report is a true report of results obtained from our tests of this material.

Respectfully submitted,

Nytest Environmental Inc.

Remo Gigante
Laboratory Director

JUN 16 1986

file
Commercial
Envelope

Mr. Nicholas A. Andrianas
Project Engineer
Eder Associates Consulting Engineers, P.C.
85 Forest Avenue
Locust Valley, New York 11560

Dear Mr. Andrianas:

Your letter of May 22, 1986 to Mr. Fichera of the Department of Environmental Conservation (DEC) Region 1, describes your plans, on behalf of your client, to incinerate on-site the aqueous wastewater decanted from abandoned ink waste tanks. The sludge from these ink waste tanks, which were shown to be a characteristic hazardous waste, were already disposed of at a TSDF. The removal of these tanks and their contents are part of a consent order.

As presented, the data does not clearly indicate a hazardous waste since the wastewater is not a characteristic waste, but does contain traces of listed hazardous waste. The trace organics found would meet the intent of the Part 371.1 (d) ii (d)(2) criteria and could be attributed to de minimis losses. Please understand that the decision as to hazardous or non-hazardous rests solely with the generator.

If you have any additional questions, please do not hesitate to contact me at telephone number 518-457-6858.

Sincerely,

James Sibbald Moran, P.E.
Supervisor
Manifest Section
Bureau of Hazardous Waste Operations
Division of Solid and Hazardous Waste

cc: J. Fichera
J. Williams
D. Mafrici

eder associates
consulting engineers, p.c.

June 23, 1986
File #525-1

Via: Federal Express

Mr. Jeffrey K. Williams
Assistant Public Health Engineer
Pollution Control
Suffolk County Department of
Health Services
15 Horseblock Place
Farmingville, New York 11738

Re: Commercial Envelope Manufacturing Company, Inc.
Deer Park, New York

Dear Mr. Williams:

As we informed your office, during our recent telephone conversations and through our May 22, 1986 letter to Mr. Fichera of the New York State Department of Environmental Conservation (NYSDEC), Commercial Envelope Manufacturing (CEM) abandoned three (3) underground ink waste tanks pursuant to Article 12 of the Suffolk County Sanitary Code in April 1986. Prior to abandonment, the wastewater in the tanks was collected and stored on-site in 180 55 gallon drums.

CEM hereby requests permission to dispose of the wastewater in its on-site liquid incinerator. An application for a "Certificate to Operate" the existing incinerator to dispose of wastewater currently generated at CEM was approved by your office. You have requested that CEM supply information describing the wastewater removed from the abandoned tanks, wastewater sampling and analysis performed and estimated contaminant emissions. This information is provided in Attachment A for your review.

We have requested that the NYSDEC determine whether a Part 370 Permit is required for the storage and incineration of the wastewater removed from the underground tanks. This request was submitted by our office on May 22, 1986 to Mr. Joseph Fichera (DEC, Region I) and to Mr. Jim Moran (DEC, Albany). A copy of the request was also submitted to your office. We have been verbally advised by Dr. Max Goldman (DEC, Albany) that the wastewater is non-hazardous. A Part 370 Permit for the storage and incineration is therefore not required.

The removal of the wastewater from the tanks and abandonment of the tanks was performed under a Consent Order between CEM and Suffolk County. Your assistance in expediting this request to incinerate the ink tank wastewater would be appreciated.

Continued . . .

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JOHN McGUIRE, P. E. • JORGE MOLINA, ING. • WILLIAM J. CUNNINGHAM, P. E. • JOSEPH B. HELLMANN, P. E.

Mr. Jeffrey K. Williams
Suffolk County Department of
Health Services
June 23, 1986

Please advise our office in writing of your decision to permit CEM to incinerate this wastewater removed from the abandoned tanks.

If you have any questions, please do not hesitate to contact our office.

Very truly yours,

EDER ASSOCIATES CONSULTING ENGINEERS, P.C.

Nicholas A. Andrianas
Project Engineer

NAA/tg

cc: S. Cohen
J. Fichera

COMMERCIAL ENVELOPE MANUFACTURING COMPANY, INC.
DEER PARK, NEW YORK

ATTACHMENT A

Wastewater Generation

Commercial Envelope Manufacturing (CEM) operated, in the past, three (3) underground ink waste storage tanks. The tanks were used to store wastewater generated by washing of ink printing equipment and by plate making and developing room operations. A description of the wastewater currently generated at CEM is included in Eder Associates' February 20, 1986 letter to Joseph Fichera (NYSDEC). A copy of this letter was submitted to the Suffolk County Department of Health Services (SCDHS). According to plant personnel, the wastewater stored in the ink waste tanks prior to abandonment was generated in the same manner to the wastewater presently generated at CEM.

Wastewater Sampling and Analysis

The wastewater was pumped from the ink waste tanks, decanted and stored in 55 gallon drums by a licensed industrial waste contractor. One grab sample of the liquid was collected from each tank by an engineer from Eder Associates during the pumping operations. The samples were placed in appropriate sample bottles provided by the analytical laboratory and preserved. EPA sampling, analysis and chain of custody protocols were followed. Samples of liquids in the tanks were identified as Liquid 01, 02 and 03. Samples identified as Soil 04, 05 and 06 were collected from the inside of the tanks. The soil in the tanks was removed and disposed of off-site. The samples were collected between March 17 and March 20, 1986.

The samples were analyzed for the characteristics of hazardous waste (EP toxicity, ignitability, reactivity and corrosivity) and for selected organic constituents. The organics analyzed included compounds used at the CEM facility and/or potentially present in the wastewater. The organic analyses includes halogenated, straight chain and cyclic hydrocarbons. The straight chain and cyclic hydrocarbons were analyzed for purposes of comparison to wastewater sampling and analysis performed by SCDHS. The results of the analyses are enclosed. Low concentrations of straight chain and cyclic hydrocarbons organics were detected. Trace concentrations of halogenated organics were detected. No EP toxic metals were detected.

Contaminant Emissions

The CEM facility operates a natural gas fired liquid incinerator. The incinerator runs at 1800°F. Incineration of the straight chain and cyclic hydrocarbons in the wastewater can be expected to completely oxidize the compounds to form carbon dioxide (CO_2) and water (H_2O). These compounds are the normal combustion products of the natural gas used to fire the incinerator. The natural gas flow to the incinerator is 1500 SCFH. A complete description of the incinerator operation was submitted to the SCDHS by Holzmacher, McLendon and Murrell (H2M) in April, 1985.

The main combustion products resulting from the incineration of the chlorinated hydrocarbons are carbon dioxide (CO_2), water (H_2O), hydrochloric acid (HCl) and hypochlorous acid (HClO). The estimated maximum emission of HCl and HClO contaminants were calculated. A summary of the estimated emissions is as follows:

Estimated Contaminant Emissions

Contaminant	Actual (lb/hr)	Emission Rate Potential (ERP lb/hr)	Actual Annual (lb/yr)
Hydrochloric Acid	1.8×10^{-5}	1.8×10^{-5}	0.004
Hypochlorous Acid	2.6×10^{-5}	2.6×10^{-5}	0.006

These levels of contaminants should be considered trace emissions. The calculations of contaminants are enclosed with this Attachment.

No EP toxic metals were detected in the wastewater samples, therefore no calculations for emission of metal oxide contaminants were performed.

COMMERCIAL ENVELOPE MANUFACTURING COMPANY, INC.
DEER PARK, NEW YORK

CALCULATIONS OF CONTAMINANT EMISSIONS

A. Compound

	Maximum Wastewater Concentration (mg/l)
Tetrachloroethylene (CCl_2CCl_2)	0.028
Methylene Chloride (CH_2Cl_2)	0.094

B. Wastewater Feed Rate: 0.67 gpm

C. Quantity of Wastewater: 9,900 gal

D. Reactions Used for Calculations

1. $CCl_2CCl_2 + 2O_2 + 2H_2O \longrightarrow 2CO_2 + 2HCl + 2HClO$

2. $CH_2Cl_2 + 3/2\ O_2 \longrightarrow CO_2 + HCl + HClO$

E. Input of compound to incineration generating

Tetrachloroethylene:

= 0.67 gal/min x 60 min/hr x 3.78 l/gal x 0.028 mg/l
x g/1000 mg x lb/454g

= 9.37×10^{-6} lb/hr

Molecular Weight = 166 lb/lb-mole (CCl_2CCl_2)

9.37×10^{-6} lb/hr x lb-mole/166 lb

= 5.65×10^{-8} lb-mole/hr

Methylene Chloride

= 0.67 gal/min x 60 min/hr x 3.78 l/gal x 0.094 mg/l
x g/1000g x lb/454g

= 3.15×10^{-5} lb/hr

Molecular Weight = 84 lb/lb-mole ($CH_2 Cl_2$)

= 3.15×10^{-5} lb/hr x lb-mole/85 lb

= 3.75×10^{-7} lb-mole/hr

F. Contaminant Emissions

HCl:

= 5.65×10^{-8} lb-mole/hr x 2 x 36.5 lb/lb-mole
+ 3.75×10^{-7} lb-mole/hr x 1 x 36.5 lb/lb-mole

= 1.8×10^{-5} lb/hr

HClO:

= 5.65×10^{-8} lb-mole/hr x 2 x 52.5 lb/lb-mole
+ 3.75×10^{-7} lb-mole/hr x 1 x 52.5 lb/lb-mole
= 2.6×10^{-5} lb/hr

Annual Emissions:

HCl 3.2×10^{-5} lb/hr x 246 hrs = 0.004 lb/yr

HClO 4.5×10^{-5} lb/hr x 246 hrs = 0.006 lb/yr

COUNTY OF SUFFOLK

PETER F. COHALAN
SUFFOLK COUNTY EXECUTIVE

DEPARTMENT OF HEALTH SERVICES

DAVID HARRIS, M.D., M.P.H.
COMMISSIONER

June 30, 1986

Mr. Nicholas Andrianas
Eder Associates, P.C.
85 Forest Ave.
Locust Valley, N.Y. 11560

Re: Commercial Envelope Mfg. Co., Inc.
Deer Park

file

Dear Mr. Andrianas:

Pursuant to your conversation today with Mr. Jeffrey Williams of my staff, I have been informed that the estimated emissions associated with the one time incineration of ink storage tank waste water at the above referenced facility will not exceed acceptable ambient levels for the contaminants listed in your letter dated June 23, 1986.

As such, authorization is hereby granted to Commercial Envelope Mfg. Co., Inc. to evaporate these wastes under the existing Certificate to Operate identified as Emission Point 472000 4428 00001.

If you have any questions regarding this matter please do not hesitate to contact me.

Very truly yours,

William C. Roberts, P.E.
Chief, Bureau of
Environmental Pollution Control

WCR/JKW/rt
cc: Steven Cohen, Esq.
Gold & Wachtel
37th Floor
10 E. 53rd St.
New York, N.Y. 10022
cc: Joseph Fichera
NYSDEC - Stony Brook

038

eder associates
consulting engineers, p.c.

September 12, 1986
File #525-1

Mr. Vincent Frisina, P.E.
Public Health Engineer
Hazardous Materials Management
Suffolk County Department of
Health Services
15 Horseblock Place
Farmingville, New York 11738

Art-12

Re: Commercial Envelope Manufacturing Company, Inc.
Deer Park, New York

Dear Mr. Frisina:

The modifications at the above referenced facility for compliance with Article 12 of the Suffolk County Sanitary Code have been completed.

On behalf of Commercial Envelope, we request that a County representative visit and inspect the facility pursuant to the issuance of "Permit to Operate".

Please contact our office or Mr. Alan Kristel at Commercial Envelope to arrange for a site visit.

Very truly yours,

EDER ASSOCIATES CONSULTING ENGINEERS, P.C.

Nicholas A. Andrianas
Project Engineer

NAA/tg

cc: S. Cohen
A. Kristel

039

85 FOREST AVENUE • LOCUST VALLEY, NEW YORK 11560 • (516) 671-8440
LEONARD J. EDER, P. E. • FREDERICK H. INYARD, P. E. • STEPHEN J. OSMUNDSEN, P. E. • GARY A. ROZMUS, P. E.
JOHN McGUIRE, P. E. • JORGE MOLINA, ING. • WILLIAM J. CUNNINGHAM, P. E. • JOSEPH B. HELLMANN, P. E.

REFERENCE NO. 7

file

COUNTY OF SUFFOLK

PATRICK G. HALPIN
SUFFOLK COUNTY EXECUTIVE

DEPARTMENT OF HEALTH SERVICES

DAVID HARRIS, M.D., M.P.H.
COMMISSIONER

January 17, 1991

Mr. Joseph Guarino
Town of Babylon
281 Phelps Lane
North Babylon, New York 11703-4006

Re: **Subdivision Application #90-02MN**
Suffolk County Tax Map #100-67-1-22.2, 24.64, 24.55

Gentlemen:

In response to your letter dated December 19, 1990, I have requested that our Office of Ecology review the environmental assessment report and respond at their earliest convenience.

Due to the fact that Commercial Envelope, a Superfund facility #1-52-103, is located on this parcel, all future owners of any portion of this property should be made aware of their possible liability in the event that an environmental cleanup is required. In addition to being a Superfund site, Commercial Envelope also performed a cleanup and a limited groundwater study in accordance with an Order on Consent with Suffolk County Department of Health Services #IW-85-67. Although, monitoring wells at the site revealed trace organic contamination, the report submitted by Eder Associates, Commercial Envelope's consultants, stated that the levels found were sporadic and in up stream wells as well as down stream wells. No positive identification could be made as to the source of contaminants found.

In January 1986, the facility also experienced a problem with the mistaken delivery of thousands of gallons of fuel oil to a monitoring well on the west side of the building instead of the fill line to the fuel tank. This cleanup was performed under DEC supervision. The spill number for the incident is 85-3538. I would suggest that you contact the appropriate people at the New York State DEC for further information regarding the fuel oil spill and the present status with regard to the Superfund investigation.

Sincerely,

Robert Seyfarth, Senior Public Health Sanitarian
Inspection Services
Environmental Engineering & Pollution Control

15 HORSEBLOCK PLACE • FARMINGVILLE, NEW YORK 11738-1220 • (516) 451-46
FAX # 732-1531

ARTHUR G. PITTS, Supervisor

Town of Babylon

281 Phelps Lane, North Babylon, New York 11703-4006

TOWN OF BABYLON
ENVIRONMENTAL QUALITY REVIEW ACT
(TOBEQRA) CHAPTER 114-5(B)(1)
LEAD AGENCY COORDINATION
NOTIFICATION

DATE December 19, 1990

TO: Mr. James Pim
S. C. Dept. of Health Services
15 Horseblock Road
Farmingville, N. Y. 11738

IDENTIFIED AS: ____ INVOLVED AGENCY
X INTERESTED AGENCY

APPLICANT: Subdiv. Appl. No. 90-025mn SCTM#100-67-1-22.2, 24.64, 24.55
M.A.S. Blvd. Associates
S/s Grand Blvd., 300' w/o Jeffryn
Deer Park, New York

PROPOSAL: Subdivide an already developed industrial site into two parcels. Parcel one will include a building with two businesses, E.L.M. Freight Handlers, Inc. and Commercial Envelope, a manufacturing operation on the superfund list. Parcel two will include a vacant lot and Pepsi Cola warehouse.

TOBEQRA STATUS: X TYPE I ____ UNLISTED

YOU HAVE BEEN CONTACTED TO SOLICIT YOUR INTEREST IN:

____ REQUESTING LEAD AGENCY STATUS
X SUBMITTING ANY COMMENTS ON THE PROPOSAL

LEAD AGENCY COORDINATION TIME FRAME: STARTS 12/19/90
ENDS 1/17/91

THE Planning Board OF THE TOWN OF BABYLON WILL BE ASSUMING LEAD AGENCY STATUS UPON COMPLETION OF THE THIRTY DAY LEAD AGENCY COORDINATION. IF YOU HAVE ANY QUESTIONS CONTACT Joseph Guarino at 422-7640 TOWN OF BABYLON, DEPARTMENT OF ENVIRONMENTAL CONTROL. PART I OF THE TOBEQRA LONG ENVIRONMENTAL ASSESSMENT FORM IS ENCLOSED FOR YOUR REVIEW.

cc: Evan R. Liblit, Commissioner, TOBDEC
Jean 1. Gilman, Deputy Commissioner, TOBDEC
Lynn Iacona, Deputy Town Attorney
Darrel Conway, Assistant Town Attorney
Karen Finkenberg, Sr. Engineering Aide, Planning & Development
Robert Longman, Planner, Planning & Development
Thomas Young, Chairman, Planning Board

JG:vl

PART 1—PROJECT INFORMATION

Prepared by Project Sponsor

NOTICE: This document is designed to assist in determining whether the action proposed may have a significant effect on the environment. Please complete the entire form, Parts A through E. Answers to these questions will be considered as part of the application for approval and may be subject to further verification and public review. Provide any additional information you believe will be needed to complete Parts 2 and 3.

It is expected that completion of the full EAF will be dependent on information currently available and will not involve new studies, research or investigation. If information requiring such additional work is unavailable, so indicate and specify each instance.

NAME OF ACTION: Subdivision		
LOCATION OF ACTION (Include Street Address, Municipality and County): 900 Grand Blvd. Deerpark, NY Town of Babylon Suffolk County		
NAME OF APPLICANT/SPONSOR: M.A.S. Boulevard Associates	BUSINESS TELEPHONE: (516) 242-2500	
ADDRESS: 900 Grand Blvd.		
CITY/PO: Deer Park.	STATE: NY	ZIP CODE: 11729
NAME OF OWNER (If different): -Same-	BUSINESS TELEPHONE: (516) 242-2500	
ADDRESS: -		
CITY/PO: -	STATE: -	ZIP CODE: -
DESCRIPTION OF ACTION: Subdivision of 2 buildings ~~on~~ ~~Access~~ into 2 separate parcels.		

Please Complete Each Question—Indicate N.A. if not applicable

A. Site Description

Physical setting of overall project, both developed and undeveloped areas.

1. Present land use: ☐Urban ☒Industrial ☐Commercial ☐Residential (suburban) ☐Rural (non-farm)
   ☐Forest ☐Agriculture ☐Other _____

2. Total acreage of project area: 12.313 acres.

APPROXIMATE ACREAGE	PRESENTLY	AFTER COMPLETION
Meadow or Brushland (Non-agricultural)	0 acres	0 acres
Forested	0 acres	0 acres
Agricultural (Includes orchards, cropland, pasture, etc.)	0 acres	0 acres
Wetland (Freshwater or tidal as per Articles 24, 25 of ECL)	0 acres	0 acres
Water Surface Area	0 acres	0 acres
Unvegetated (Rock, earth or fill)	0 acres	0 acres
Roads, buildings and other paved surfaces	9.5 acres	9.5 acres
Other (Indicate type) LANDSCAPING	2.8 acres	2.8 acres

3. What is predominant soil type(s) on project site? Cut and Fill Land
   a. Soil drainage: ☒Well drained 100 % of site ☐Moderately well drained _____ % of site
   ☐Poorly drained _____ % of site
   b. If any agricultural land is involved, how many acres of soil are classified within soil group 1 through 4 of the NYS Land Classification System? NA acres. (See 1 NYCRR 370).

4. Are there bedrock outcroppings on project site? ☐Yes ☒No
   a. What is depth to bedrock? _____ (in feet)

Approximate percentage of proposed project site with slopes: ☒ 0-10% 100 % ☐ 10-15% _____ % ☐ 15% or greater _____ %

5. Is project substantially contiguous to, or contain a building, site, or district, listed on the State or the National Registers of Historic Places? ☐ Yes ☒ No

7. Is project substantially contiguous to a site listed on the Register of National Natural Landmarks? ☐ Yes ☒ No

What is the depth of the water table? 16.4' (in feet)

9. Is site located over a primary, principal, or sole source aquifer? ☒ Yes ☐ No

10. Do hunting, fishing or shell fishing opportunities presently exist in the project area? ☐ Yes ☒ No

Does project site contain any species of plant or animal life that is identified as threatened or endangered?
☐ Yes ☒ No According to _____
Identify each species _____

12. Are there any unique or unusual land forms on the project site? (i.e., cliffs, dunes, other geological formations)
☐ Yes ☒ No Describe _____

13. Is the project site presently used by the community or neighborhood as an open space or recreation area?
☐ Yes ☒ No If yes, explain _____

14. Does the present site include scenic views known to be important to the community?
☐ Yes ☒ No

Streams within or contiguous to project area: None
a. Name of Stream and name of River to which it is tributary -

Lakes, ponds, wetland areas within or contiguous to project area:
a. Name None b. Size (In acres) -

Is the site served by existing public utilities? ☒ Yes ☐ No
a) If Yes, does sufficient capacity exist to allow connection? ☐ Yes ☐ No
b) If Yes, will improvements be necessary to allow connection? ☐ Yes ☒ No

Is the site located in an agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☒ No

19. Is the site located in or substantially contiguous to a Critical Environmental Area designated pursuant to Article 8 of the ECL, and 6 NYCRR 617? ☐ Yes ☒ No

20. Has the site ever been used for the disposal of solid or hazardous wastes? ☒ Yes ☐ No

JG

Project Description

Physical dimensions and scale of project (fill in dimensions as appropriate)

a. Total contiguous acreage owned or controlled by project sponsor 12.313 acres.
b. Project acreage to be developed: 12.313 acres initially; _____ acres ultimately
c. Project acreage to remain undeveloped 1 acres.
d. Length of project, in miles: NA (If appropriate)
e. If the project is an expansion, indicate percent of expansion proposed NA %;
f. Number of off-street parking spaces existing 375; proposed 375
g. Maximum vehicular trips generated per hour 12 (upon completion of project)?
h. If residential: Number and type of housing units: NA

	One Family	Two Family	Multiple Family	Condominium
Initially				
Ultimately				

i. Dimensions (in feet) of largest proposed structure NA height: _____ width: _____ length.
j. Linear feet of frontage along a public thoroughfare project will occupy is? 1275 ft.

2. How much natural material (i.e., rock, earth, etc.) will be removed from the site? None tons/cubic yards

3. Will disturbed areas be reclaimed? ☐Yes ☐No ☐N/A

   a. If yes, for what intended purpose is the site being reclaimed? No Construction, Existing Buildings.

   b. Will topsoil be stockpiled for reclamation? ☐Yes ☐No

   c. Will upper subsoil be stockpiled for reclamation? ☐Yes ☐No

4. How many acres of vegetation (trees, shrubs, ground covers) will be removed from site? None acres.

5. Will any mature forest (over 100 years old) or other locally-important vegetation be removed by this project? ☐Yes ☒No

6. If single phase project: Anticipated period of construction 0 N/A months, (including demolition).

7. If multi-phased: NA

   a. Total number of phases anticipated _____ (number).

   b. Anticipated date of commencement phase 1 _____ month _____ year, (including demolition).

   c. Approximate completion date of final phase _____ month _____ year.

   d. Is phase 1 functionally dependent on subsequent phases? ☐Yes ☐No

8. Will blasting occur during construction? ☐Yes ☒No

9. Number of jobs generated: during construction NA; after project is complete _____

10. Number of jobs eliminated by this project NA.

11. Will project require relocation of any projects or facilities? ☐Yes ☒No If yes, explain _____

12. Is surface liquid waste disposal involved? ☐Yes ☒No

   a. If yes, indicate type (sewage, industrial, etc.) and amount _____

   b. Name of water body into which effluent will be discharged _____

13. Is subsurface liquid waste disposal involved? ☒Yes ☐No Type Sewage (JG)

14. Will surface area of an existing water body increase or decrease by proposal? ☐Yes ☒No

   Explain _____

15. Is project or any portion of project located in a 100 year flood plain? ☐Yes ☒No

16. Will the project generate solid waste? ☒Yes ☐No (JG)

   a. If yes, what is the amount per month _____ tons

   b. If yes, will an existing solid waste facility be used? ☐Yes ☐No

   c. If yes, give name _____; location _____

   d. Will any wastes not go into a sewage disposal system or into a sanitary landfill? ☐Yes ☐No

   e. If Yes, explain _____

17. Will the project involve the disposal of solid waste? ☐Yes ☒No

   a. If yes, what is the anticipated rate of disposal? _____ tons/month.

   b. If yes, what is the anticipated site life? _____ years.

18. Will project use herbicides or pesticides? ☐Yes ☒No

19. Will project routinely produce odors (more than one hour per day)? ☐Yes ☒No

20. Will project produce operating noise exceeding the local ambient noise levels? ☐Yes ☒No

21. Will project result in an increase in energy use? ☐Yes ☒No

   If yes, indicate type(s) _____

22. If water supply is from wells, indicate pumping capacity NA gallons/minute.

23. Total anticipated water usage per day 7,579 gallons/day.

24. Does project involve Local, State or Federal funding? ☐Yes ☒No

   If Yes, explain _____

b. Approvals Required:

			Type	Submittal Date
City, Town, Village Board	☐Yes	☐No		
City, Town, Village Planning Board	☒Yes	☐No	SUBDIVISION	
City, Town Zoning Board	☒Yes	☐No	YARD VARIANCES (JG)	
City, County Health Department	☒Yes	☐No	SUBDIVISION	APPROVED
Other Local Agencies	☐Yes	☐No		
Other Regional Agencies	☐Yes	☐No		
State Agencies	☐Yes	☐No		
Federal Agencies	☐Yes	☐No		

C. Zoning and Planning Information

1. Does proposed action involve a planning or zoning decision? ☒Yes ☐No

   If Yes, indicate decision required:

   ☐zoning amendment ☒zoning variance ☐special use permit ☒subdivision ☐site plan

   ☐new/revision of master plan ☐resource management plan ☐other _____

2. What is the zoning classification(s)of the site? INDUSTRIAL

3. What is the maximum potential development of the site if developed as permitted by the present zoning?

   SITE IS DEVELOPED

4. What is the proposed zoning of the site? NO CHANGE PROPOSED

5. What is the maximum potential development of the site if developed as permitted by the proposed zoning?

   N/A

6. Is the proposed action consistent with the recommended uses in adopted local land use plans? ☒Yes ☐No

7. What are the predominant land use(s) and zoning classifications within a ¼ mile radius of proposed action?

   GA - INDUSTRIAL (JG)

8. Is the proposed action compatible with adjoining/surrounding land uses within a ¼ mile? ☒Yes ☐No

9. If the proposed action is the subdivision of land, how many lots are proposed? 2

   a. What is the minimum lot size proposed? 5.285 AC

10. Will proposed action require any authorization(s) for the formation of sewer or water districts? ☐Yes ☒No

11. Will the proposed action create a demand for any community provided services (recreation, education, police, fire protection)? ☐Yes ☒No

    a. If yes, is existing capacity sufficient to handle projected demand? ☐Yes ☐No

12. Will the proposed action result in the generation of traffic significantly above present levels? ☐Yes ☒No

    a. If yes, is the existing road network adequate to handle the additional traffic? ☐Yes ☐No

D. Informational Details

Attach any additional information as may be needed to clarify your project. If there are or may be any adverse impacts associated with your proposal, please discuss such impacts and the measures which you propose to mitigate or avoid them.

E. Verification

I certify that the information provided above is true to the best of my knowledge.

Applicant/Sponsor Name Hemmerich Schmidt Date 12-19-90

Signature _____ Title Land Surveyor

If the action is in the Coastal Area, and you are a state agency, complete the Coastal Assessment Form before proceeding with this assessment.

REFERENCE NO. 8

COUNTY OF SUFFOLK

ROBERT J. GAFFNEY
SUFFOLK COUNTY EXECUTIVE

DEPARTMENT OF HEALTH SERVICES

MARY E. HIBBERD, M.D., M.P.H.
COMMISSIONER

MEMORANDUM

TO: Robert Capp, P.E.
NYSDEC - Stony Brook

FROM: Robert Seyfarth

DATE: January 28, 1993

SUBJECT: ***COMMERCIAL ENVELOPE - DEER PARK***
FACILITY ID #472000442800001

Please be advised that this office has received an odor complaint for the above-referenced facility.

In accordance with this department's agreement with your unit, I am forwarding a Notice of Compliance Determination, completed by Robert Morcerf of my staff, for follow-up and enforcement action as you deem necessary. I am also enclosing a copy of the complaint investigation itself.

RS:lc
Enclosure

cc: Laurie McClosky/Marlin Art

15 HORSEBLOCK PLACE ▪ FARMINGVILLE, NEW YORK 11738-1220 ▪ (516) 854-25 04
FAX #854-2505

Commercial

SUFFOLK COUNTY DEPT. OF HEALTH SERVICES
UNIFORM COMPLAINT FIELD REPORT

ENVELOPE

Air Pollution ☐
Hazardous Material & Industrial Waste ☒
Internal Ventilation ☐
Sewage Treatment ☐
Assigned to Zone No. ☐

SCDHS No. Lw 91-83 Letter ☐
SPILL No. _____ Telephone ☒
DOT No. _____ Person ☐
Date 6-19-91 Time 4 pm
COMPLAINANT IDENTITY CONFIDENTIAL

Referred by: _____ Phone _____
Complainant Anon.
Address _____ (T.V.H.) _____ Phone _____

Complaint Against Envelope Facility
Address 910 Grand Blvd (T.V.H.) Deer Park Phone _____
Cross street Burt / W. Jericho

Nature of Request A foamy substance is emitted out of the east side of the building every time it runs.
RCV'D by K. Assigned to _____ Date _____

Persons Interviewed	Address	Phone

Information Obtained from Interviewed Individuals:
TO INSPECTORS: Please do not use proper names in this section.

No Response

INDW-1

18-525..5/88ps

S. .OLK COUNTY DEPT. OF HEALTH SE...ICES
UNIFORM COMPLAINT FIELD REPORT

Air Pollution ☑
Hazardous Material & Industrial Waste ☐
Internal Ventilation ☐
Sewage Treatment ☐
Assigned to Zone No. ☐

SCDHS No. A93-07 Letter ☐
SPILL No. ____ Telephone ☑
DOT No. ____ Person ☐
Date 1-21-93 Time 1pm
COMPLAINANT IDENTITY CONFIDENTIAL

[redacted]

Complaint Against Business Envelopes
Address Grand Blvd. (T.V.H.) Deer Park Phone ____
Cross street ____

Nature of Request Fumes are very bad. Getting into complainant's building.

RCV'D by L.C. Assigned to ____ Date ____

[redacted]

Information Obtained from Interviewed Individuals:
TO INSPECTORS: Please do not use proper names in this section.

C # stated that they thought it was a gas odor and they called Lilco. Lilco came down and stated that the odor appeared to be coming from the incinerator

INDW-1

18-525..5/88pa

Inspector's Observations

1/22/93 - No visible smoke noted at the time of my visit. Incinerator did not appear to be in use at this time

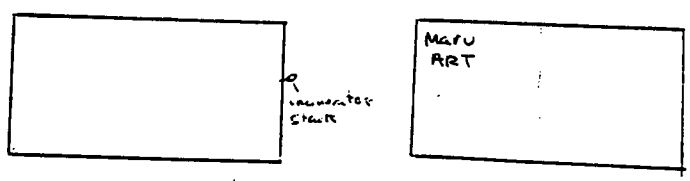
1/25/93 - Same as above

Name of Responsible Individuals	Address	Tel. No.

Inspector's Recommendation to Persons Concerned None

Information Related by Inspector to Complainant will forward complaint info to NYS DEC via NOCD. Will monitor site.

Sketch:



Grand Blvd.

N

Inspectors Signature R. J. Morcerf MORCERF Date 1/26/93

76-12-8 (6/86)

47 0 0 0 0 NOCDR. M01

47200044280001

Inspected on 1/25/93 AT : AM PM time

WHITE - APPLICANT
PINK - DATA ENTRY
YELLOW - REGIONAL OFFICE

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF AIR RESOURCES

NOTICE OF COMPLIANCE DETERMINATION

TO

Name Commercial Envelope INC

Address 200 Grand Blvd

City Deer Park ZIP 11729

Contact

FOR

Source Description Incinerator (liquid waste)

☐ INSPECTION
☒ COMPLAINT
☐ OTHER
} Type

MULTIPLE EMISSION POINTS

LIST IF MORE THAN ONE

INSPECTION COMMENTS (DESCRIBE VIOLATION, IF ANY)

Received complaint regarding above named facility. Complainant states that fumes from the incinerator are causing discomfort. Complainants facility is just east of above facility. Similar complaints against this facility have been received in the past.

NO ODOR OR VISIBLE EMISSIONS NOTED AT TIME OF INSPECTION

COMPLIANCE STATUS

☐ NON COMPLIANCE: PLEASE TAKE NOTICE THAT based upon this inspection, there is reason to believe that you are in violation of Article 19 of the New York Environmental Conservation Law and the regulation promulgated thereunder 6NYCRR Part(s) ____ , ____ .

PLEASE TAKE FURTHER NOTICE THAT the sanctions for such violations include a civil penalty of up to $10,000 plus $500 per day the violation continues a criminal fine of up to $10,000 per day of violation, and/or imprisonment of up to one year per day of violation.

YOU ARE HEREBY DIRECTED TO TAKE CORRECTIVE ACTION

☐ IN COMPLIANCE
☐ SOURCE SHUT DOWN
☐ SOURCE REMOVED
☐ OTHER Type

DISPOSITION

☐ AGREEMENT FOR VOLUNTARY COMPLIANCE BY / /
☐ REINSPECTION TO BE MADE BY / /
☐ OTHER BY / /
☐ FURTHER ACTION NOT REQUIRED
☐ PRIOR ACTION (S) COMPLETE

INSPECTION PERFORMED BY (print) MORCERF TITLE Sanitarian SCMS

DEC REPRESENTATIVE'S SIGNATURE DATE

DEC RESERVES THE RIGHT TO TAKE FURTHER ENFORCEMENT ACTION FOR ANY VIOLATION NOTED IN THIS NOCD OR ANY OTHER VIOLATION OF THE ENVIRONMENTAL CONSERVATION LAW

for further information please contact -

Robert Capp (name)

DEC Engineer (title) 751-7900 (phone no.)

REFERENCE NO. 9

WESTON

Diane Donovan Minsavage
Originator

PHONE CONVERSATION RECORD

Conversation with:

Name Cindy

Company Tax Assessors Office

Address

Phone (516) 957-3014

Subject Ownership of site

Date April / 15 / 1994

Time 11:40 AM/PM

☒ Originator Placed Call

☐ Originator Received Call

W.O. NO. 04200-022-081-0006

Notes: Called to confirm/update ownership of property. Property at 900 Grand Boulevard in Deer Park, formerly District 100, Section 167, Block 1, Lots 22.02, 24.65S and 24.65 is now Lot 22.23. The lots were apportioned/joined in July 1992. The property is 7.1 acres and is owned by MAS Boulevard Association (mailing address: 900 Grand Boulevard, Deer Park). The computer files do not go back to 1986; MAS Boulevard Associates purchased property prior to July 1992, all computer records indicate MAS as owner/ no change in ownership. Any apportionment questions should go to Mary Ann

☒ File

☐ Tickle File ___/___/___

☐ Follow-Up By:

☐ Copy/Route To:

Follow-Up-Action: DDM

Originator's Initials DDM

RFW 110-4-83

REFERENCE NO. 10


HUNTINGTON HILLS
BABYLON
PILGRIM STATE HOSPITAL
SUFFOLK STATE SCHOOL
HALF HOLLOW HILLS
EAST BRENTWOOD
BRENTWOOD
Pine Aire
Half Hollow
Deer Park
Wyandanch
West Babylon
North Babylon
West Islip
North Bay Shore
Bay Shore
Brightwaters
Islip
SITE
S-C(4)
S-A(2)
S-W(2)
S-G(2)
S-P(3)
S-S(3)
S-A(3)
S-H(4)
S-B(4)
S-B(2)
S-S'(3)
S-U(3)
S-T(2)
S-E(2)
S-L(3)
S-E'(5)
B-2(2)
B-1(2)
B-3
6-1(2)
5-P(3)
D-10
D-6(5)
D-3(3)
D-4
D-5(2)
D-8
LEGEND
- Public/municipal well/well field
B - Brentwood Water District
D - Dix Hills Water District
S - Suffolk County Water Authority
SCALE 1:24 000
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER
CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
DEPTH CURVES AND SOUNDINGS IN FEET—DATUM IS MEAN LOW WATER
THE RELATIONSHIP BETWEEN THE TWO DATUMS IS VARIABLE
SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER
THE MEAN RANGE OF TIDE IS APPROXIMATELY 1.3 FEET
WESTON MANAGERS DESIGNERS/CONSULTANTS
FOUR-MILE VICINITY MAP
SITE NAME:
COMMERCIAL ENVELOPE MFG. CO., INC.
DEER PARK, NY
DATE: 11 MAY 1994
SCALE: 1"=2,000'
USGS QUAD: GREENLAWN, NY

REFERENCE NO. 11

WESTON

PROJECT NOTE

TO: Commercial Envelope Mfg. Co. Inc. file

DATE: 20 June 1994

FROM: D. D. Miosavage

W.O. NO.: 04200-022-081-0000-02

SUBJECT: Potable water sources within 4 miles of the site.

Three public/municipal water systems supply drinking water to people living within 4 miles of the site. Each of the public/municipal systems obtains water from groundwater wells; some of the wells are located within 4 miles of the site. All of the public/municipal wells located within 4 miles of the site obtain water from the Glacial or Magothy aquifers. The populations served by these wells is presented below:

·Dix Hills Water District - serves 30,000 people, operates 15 wells: 8 Glacial, 7 Magothy [Attachment A]

2-3 miles: Plant #10 - 1 well; Magothy - serves ~2,000 people (D-10)

3-4 miles: Plant #3 - 3 wells (D-3(3)); Glacial
Plant #4 - 1 well (D-4); Glacial
Plant #8 - 1 well (D-8); Glacial
} 5 wells, serve ~10,000 people

Plant #6 - 3 wells (D-6(3)); Magothy
Plant #9 - 2 wells (D-9(2)); Magothy
} 5 wells, serve ~10,000 people

·Brentwood Water District - serves 6,500 connections ≈ 19,760 people, operates 5 wells - all Magothy

2-3 miles: Well field #1 - 2 wells (B-1(2)); Magothy, serve ~7,904 people

3-4 miles: Well field #2 - 2 wells (B-2(2)); Magothy
Well field #3 - 1 well (B-3); Magothy
} 3 wells, serve ~11,856 people.

[Attachments B and C]

·Suffolk County Water Authority - serves 308,352 connections ≈ 937,390 people, operates 404 wells [Attachments C-E]

½-1 mile: Brook Avenue - 4 wells (S-B(4)); Magothy
Industry Court - 2 wells (S-I(2)); Magothy
} 6 wells, serve ~13,922 people

1-2 miles: Locust Drive - 3 wells (S-L(3)); 2 Glacial, 1 Magothy, serve ~4,640 people

Bay Shore - 2 wells (S-B'(2)); Magothy
Plymouth Street - 3 wells (S-P(3)); Magothy
Harvest Lane - 4 wells (S-H(4)); Magothy
} 10 wells, serve ~23,203 people

(continued)

WESTON

PROJECT NOTE

TO: Commercial Envelope Mfg Co, Inc. file

DATE: 20 June 1994

FROM: D.D. Minsavage

W.O. NO.: 04200-022-081-0001e-02

SUBJECT: Potable water sources within 4 miles of the site

: Suffolk County Water Authority (continued) -

2-3 miles: Adams Avenue - 2 wells (S-A(2)); Magothy
August Road - 3 wells (S-A'(3)); Magothy
East Forks Road - 2 wells (S-E(2)); Magothy
Enjay Boulevard - 3 wells (S-E'(3)); Magothy
Sunrise Highway - 3 wells (S-S'(3)); Magothy
Thomas Avenue - 2 wells (S-T(2)); Magothy
Wyandanch Avenue - 2 wells (S-W(2)); Magothy
} 17 wells, serve ~ 39,445 people

3-4 miles: Circle Drive - 4 wells (S-C(4)); Magothy
Gordon Avenue - 2 wells (S-G(2)); Magothy
Prospect Avenue - 3 wells (S-P'(3)); Magothy
Smith Street - 3 wells (S-S(3)); Magothy
Union Boulevard - 3 wells (S-U(3)); Magothy
} 15 wells, serve ~ 34,804 people

The calculation of the number of people served by each aquifer is presented below:

Glacial aquifer:

0-1/4 mile = 0
1/4 - 1/2 mile = 0
1/2 - 1 mile = 0
1 - 2 miles = 4,640 (Suffolk County)
2 - 3 miles = 0
3 - 4 miles = 10,000 (Dix Hills)

Magothy Aquifer:

0 - 1/4 mile = 0
1/4 - 1/2 mile = 0
1/2 - 1 mile = 13,922 (Suffolk County)

The nearest potable well is the Brook Avenue wellfield, located approximately 0.8 mile south-southwest of the site.

(continued)

WESTON

PROJECT NOTE

TO: Commercial Envelope Mfg Co Inc. file

DATE: 20 June 1994

FROM: D.D. Minsavage

W.O. NO.: 04200-022-081-0006-02

SUBJECT: Potable water sources within 4 miles of the site.

Magothy Aquifer (continued):

1-2 miles = 23,203 (Suffolk County)

2-3 miles = 2,000 (Dix Hills)
7,904 (Brentwood)
+39,445 (Suffolk County)
Σ = 49,349

3-4 miles = 10,000 (Dix Hills)
11,856 (Brentwood)
+34,804 (Suffolk County)
Σ = 56,660

The public/municipal wells have been plotted on the "Four-Mile Map" for Commercial Envelope Mfg Co. Inc.

A printout of wells located within 4 miles of the site confirms that all wells are drawing from either the Glacial or Magothy aquifers [Attachment F] Also, the private/domestic wells are indicated on the printout

DDM

ATTACHMENT A

DD Misavage
Originator

PHONE CONVERSATION RECORD

Conversation with:

Name Vinny Candura

Company Dix Hills Water District

Address

Phone (516) 421-1812

Date June / 13 / 1994

Time 8:25 (AM) PM

☑ Originator Placed Call

☐ Originator Received Call

W.O. NO. 04200-022-081-0006-02

Subject Groundwater use within 4 miles of the site

Notes: Dix Hills operates 15 wells and supplies water to 7,900 plus service connections or approximately 30,000 people. Dix Hills does not purchase or sell bulk quantities of water to/from other systems; emergency interconnections only.

- Plant #1: Caledonia Rd by Wolf Hill on northeast corner (south of park) 2 wells - glacial
- Plant #5: between Donny and Norman off Vanderbilt : 1 well - glacial
- Plant #7: Elkland Rd, ~500ft west of Woodmont : 1 well - Magothy
- Plant #9: Thorngrove; below Empire, not quite at southern bend : 2 wells - Magothy
- Plant #8: Ryder, between South Hollow and Wright : 1 well - glacial
- Plant #6: Deer Park Ave; between Landview and Tiana : 3 wells - Magothy
- Plant #4: Intersection of Herter and Colby : 1 well - glacial
- Plant #3: Carl's Straight Path opposite Sweetwater (on east) : 3 wells - glacial
- Plant #10: Intersection of Seneca and Otsego : 1 well - Magothy

Plant #10 is located ~2.4 miles northwest of the site (1 well)
Plants #3, 4, 6, 8 and 9 are located 3 to 4 miles from the site (10 wells)
Plants #1, 5 and 7 are located >4 miles from the site (4 wells)

☑ File Commercial Envelope

☐ Tickle File ___ / ___ / ___

☐ Follow-Up By:

☐ Copy/Route To:

Follow-Up-Action:

Originator's Initials DDM

RFW 110-4-83

ATTACHMENT B

273-4565
231-6880 EMERGENCY

BRENTWOOD WATER DISTRICT

TOWN OF ISLIP
51 THIRD AVENUE • P.O. BOX 2
BRENTWOOD, NEW YORK 11717

FRANCIS X. PIPINO
Superintendent

April 18th, 1994

Weston
Raritan Plaza
4th Floor Raritan Center
Edison, N.J. 08837

Attention: Diane Donovan Minsavage

Dear Ms. Savage:

As per your request regarding EPA contract no. 68-W9-0022, please be advised of the following:

(1) Source is ground water
(A) Total number of active wells = 5
(B) Main office - well field #1, 51 Third Avenue, First Street to the East
Well 1-3, Magothy, 550'
Well 1-4, Magothy, 750'

Well Field #2 Morris Street, Lincoln Avenue to the East
Well 2-2, Magothy, 436'
Well 2-3, Magothy, 755'

Well Field #3 American Blvd., 2nd Avenue, to the North
Well 3-1, Magothy, 905'

(2) All source wells cover 100% of the District

(3) Total services 6,500
All residences and businesses are connected to the system

(4) The entire system is interconnected

(5) We do not sell water in bulk

If you have any further questions feel free to call the office.

Very truly yours,

Michael H. Nelson
Assistant Superintendent
BRENTWOOD WATER DISTRICT

ATTACHMENT C

90-GU8

10/91

1990 CENSUS POPULATION AND GROUP QUARTERS COUNTS, VACANCY STATUS, AND PERSONS PER UNIT

FOR

ALL GOVERNMENTAL UNITS

Prepared by: New York State, Dept. of Economic Development, State Data Center

1990 Census Population and Group Quarter Counts, Vacancy Status and Persons Per Occupied Housing Units
For
New York State Minor Civil Divisions by County and Places.

Area Name	Total Population	Total Group Quarters Population	Insitutional Group Quarters Population	Percent Total Group Quarters Population	Total Housing Units	Total Vacant Housing Units	Percent Vacant Housing Units	Persons Per Occupied Housing Units
Suffolk County	1,321,864	29,394	16,882	2.22	481,317	56,598	11.76	3.04
Babylon town	202,889	2,957	1,471	1.46	66,819	2,313	3.46	3.10
Amityville village	9,286	920	859	9.91	3,300	148	4.48	2.65
Babylon village	12,249	200	200	1.63	4,536	180	3.97	2.77
Copiague CDP	20,769	44	0	0.21	7,067	135	1.91	2.99
Deer Park CDP	28,840	0	0	0.00	9,616	200	2.08	3.06
East Farmingdale CDP	4,510	51	0	1.13	1,495	51	3.41	3.09
Lindenhurst village	26,879	141	11	0.52	8,847	247	2.79	3.11
North Amityville CDP	13,849	226	0	1.63	4,316	325	7.53	3.41
North Babylon CDP	18,081	0	0	0.00	6,123	183	2.99	3.04
North Lindenhurst CDP	10,563	8	0	0.08	3,404	81	2.38	3.18
West Babylon CDP	42,410	468	394	1.10	13,799	357	2.59	3.12
Wheatley Heights CDP	5,027	38	7	0.76	1,449	18	1.24	3.49
Wyandanch CDP	8,950	71	0	0.79	2,362	143	6.05	4.00
Brookhaven town	407,779	10,790	3,700	2.65	140,677	11,585	8.24	3.08
Belle Terre village	839	0	0	0.00	280	12	4.29	3.13
Bellport village	2,572	0	0	0.00	1,120	130	11.61	2.60
Blue Point CDP	4,230	59	19	1.39	1,548	91	5.88	2.86
Brookhaven CDP	3,118	171	171	5.48	1,097	87	7.93	2.92
Calverton CDP (pt.)	1,093	0	0	0.00	420	46	10.95	2.92
Centereach CDP	26,720	233	188	0.87	7,801	181	2.32	3.48
Center Moriches CDP	5,987	34	31	0.57	2,316	221	9.54	2.84
Coram CDP	30,111	417	316	1.38	10,737	607	5.65	2.93
East Moriches CDP	4,021	130	109	3.23	1,542	242	15.69	2.99
East Patchogue CDP	20,195	539	471	2.67	7,446	373	5.01	2.78
East Shoreham CDP	5,461	114	104	2.09	1,671	79	4.73	3.36
Farmingville CDP	14,842	73	0	0.49	4,560	195	4.28	3.38
Holbrook CDP (pt.)	5,063	12	0	0.24	1,474	33	2.24	3.51
Holtsville CDP (pt.)	12,530	12	12	0.10	3,749	101	2.69	3.43
Lake Grove village	9,612	94	93	0.98	3,301	230	6.97	3.10
Lake Ronkonkoma CDP (pt.)	14,708	445	236	3.03	4,864	166	3.41	3.04
Manorville CDP	6,198	33	33	0.53	2,567	248	9.66	2.66
Mastic CDP (pt.)	13,642	14	10	0.10	4,188	300	7.16	3.51
Mastic Beach CDP	10,293	0	0	0.00	4,212	846	20.09	3.06
Medford CDP	21,274	56	9	0.26	6,458	235	3.64	3.41
Middle Island CDP	7,848	316	296	4.03	3,184	320	10.05	2.63
Miller Place CDP	9,315	42	10	0.45	3,039	167	5.50	3.23
Mount Sinai CDP	8,023	26	26	0.32	2,559	163	6.37	3.34
North Bellport CDP	8,182	39	0	0.48	2,231	132	5.92	3.88
North Patchogue CDP	7,374	65	43	0.88	2,640	163	6.17	2.95
Old Field village	765	12	12	1.57	325	52	16.00	2.76
Patchogue village	11,060	192	0	1.74	4,844	414	8.55	2.45
Poquott village	770	0	0	0.00	313	39	12.46	2.81
Port Jefferson village	7,455	550	465	7.38	2,908	289	9.94	2.64
Port Jefferson Station CDP	7,232	92	43	1.27	2,602	135	5.19	2.89
Ridge CDP	11,734	192	127	1.64	5,349	455	8.51	2.36
Rocky Point CDP	8,596	15	0	0.17	3,870	724	18.71	2.73
Selden CDP	20,608	60	12	0.29	6,425	225	3.50	3.31
Setauket-East Setauket CDP	13,634	9	0	0.07	4,595	189	4.11	3.09
Shirley CDP	22,936	40	0	0.17	7,021	521	7.42	3.52
Shoreham village	540	0	0	0.00	204	24	11.76	3.00
Sound Beach CDP	9,102	40	0	0.44	3,575	479	13.40	2.93
Stony Brook CDP (pt.)	13,726	62	0	0.45	4,757	238	5.00	3.02
Terryville CDP	10,275	33	0	0.32	3,020	98	3.25	3.51
Yaphank CDP	4,637	893	857	19.26	1,506	107	7.10	2.68
East Hampton town	16,132	150	19	0.93	17,068	10,186	59.68	2.32
East Hampton village	1,402	19	19	1.36	1,684	1,010	59.98	2.05
East Hampton North CDP	2,780	0	0	0.00	1,889	688	36.42	2.31
Montauk CDP	3,001	124	0	4.13	3,996	2,755	68.94	2.32
Northwest Harbor CDP	2,167	0	0	0.00	2,310	1,425	61.69	2.45
Sag Harbor village (pt.)	858	1	0	0.12	782	397	50.77	2.23
Springs CDP	4,355	6	0	0.14	3,459	1,672	48.34	2.43
Huntington town	191,474	3,017	2,592	1.58	64,842	1,981	3.06	3.00
Asharoken village	807	13	0	1.61	346	45	13.01	2.64
Centerport CDP	5,333	45	45	0.84	2,042	88	4.31	2.71
Cold Spring Harbor CDP	4,789	0	0	0.00	1,747	71	4.06	2.86

1990 Census Population and Group Quarter Counts, Vacancy Status and Persons Per Occupied Housing Units
For
New York State Minor Civil Divisions by County and Places.

Area Name	Total Population	Total Group Quarters Population	Insitutional Group Quarters Population	Percent Total Group Quarters Population	Total Housing Units	Total Vacant Housing Units	Percent Vacant Housing Units	Persons Per Occupied Housing Units
Commack CDP (pt.)	12,210	300	300	2.46	3,731	59	1.58	3.24
Dix Hills CDP	25,849	194	116	0.75	7,698	125	1.62	3.39
East Northport CDP	20,411	95	85	0.47	6,970	177	2.54	2.99
Eatons Neck CDP	1,499	0	0	0.00	563	50	8.88	2.92
Elwood CDP	10,916	92	47	0.84	3,387	70	2.07	3.26
Fort Salonga CDP (pt.)	5,602	0	0	0.00	1,957	108	5.52	3.03
Greenlawn CDP	13,208	312	312	2.36	4,421	89	2.01	2.98
Halesite CDP	2,687	0	0	0.00	1,004	34	3.39	2.77
Huntington CDP	18,243	208	167	1.14	7,013	252	3.59	2.67
Huntington Bay village	1,521	0	0	0.00	542	27	4.98	2.95
Huntington Station CDP	28,247	166	47	0.59	9,968	377	3.78	2.93
Lloyd Harbor village	3,343	77	18	2.30	1,106	68	6.15	3.15
Melville CDP	12,586	57	0	0.45	4,014	91	2.27	3.19
Northport village	7,572	46	43	0.61	3,010	129	4.29	2.61
South Huntington CDP	9,624	340	340	3.53	3,297	82	2.49	2.89
West Hills CDP	5,849	0	0	0.00	1,993	37	1.86	2.99
Islip town	299,587	6,657	4,457	2.22	95,314	5,588	5.86	3.26
Bayport CDP	7,702	47	47	0.61	2,755	195	7.08	2.99
Bay Shore CDP	21,279	283	146	1.33	7,938	524	6.60	2.83
Baywood CDP	7,351	10	10	0.14	2,214	42	1.90	3.38
Bohemia CDP	9,556	177	155	1.85	3,200	106	3.31	3.03
Brentwood CDP	45,218	639	213	1.41	12,023	248	2.06	3.79
Brightwaters village	3,265	10	10	0.31	1,150	30	2.61	2.91
Central Islip CDP	26,028	119	23	0.46	7,697	301	3.91	3.50
East Islip CDP	14,325	170	160	1.19	4,670	100	2.14	3.10
Hauppauge CDP (pt.)	9,593	112	0	1.17	3,183	128	4.02	3.10
Holbrook CDP (pt.)	20,210	38	37	0.19	6,156	160	2.60	3.36
Holtsville CDP (pt.)	2,442	0	0	0.00	783	26	3.32	3.23
Islandia village	2,769	2	0	0.07	930	50	5.38	3.14
Islip CDP	18,924	105	105	0.55	6,458	355	5.50	3.08
Islip Terrace CDP	5,530	0	0	0.00	1,667	34	2.04	3.39
North Bay Shore CDP	12,799	46	0	0.36	3,464	78	2.25	3.77
North Great River CDP	3,964	0	0	0.00	1,125	18	1.60	3.58
Oakdale CDP	7,875	226	0	2.87	2,772	133	4.80	2.90
Ocean Beach village	131	0	0	0.00	574	514	89.55	2.18
Ronkonkoma CDP	20,391	60	45	0.29	6,522	190	2.91	3.21
Saltaire village	38	0	0	0.00	373	358	95.98	2.53
Sayville CDP	16,550	199	157	1.20	5,560	152	2.73	3.02
West Bay Shore CDP	4,907	0	0	0.00	1,788	104	5.82	2.91
West Islip CDP	28,419	328	328	1.15	8,657	187	2.16	3.32
West Sayville CDP	4,680	114	66	2.44	1,884	361	19.16	3.00
Poospatuck Reservation	136	0	0	0.00	46	1	2.17	3.02
Mastic CDP (pt.)	136	0	0	0.00	46	1	2.17	3.02
Riverhead town	23,011	733	472	3.19	10,801	2,065	19.12	2.55
Aquebogue CDP	2,060	10	0	0.49	956	149	15.59	2.54
Calverton CDP (pt.)	3,666	55	0	1.50	1,921	188	9.79	2.08
Jamesport CDP	1,532	56	0	3.66	962	393	40.85	2.59
Riverhead CDP	8,814	448	361	5.08	3,536	313	8.85	2.60
Wading River CDP	5,317	134	111	2.52	2,142	331	15.45	2.86
Shelter Island town	2,263	0	0	0.00	2,148	1,131	52.65	2.23
Dering Harbor village	28	0	0	0.00	27	14	51.85	2.15
Shelter Island CDP	1,193	0	0	0.00	871	375	43.05	2.41
Shelter Island Heights CDP	1,042	0	0	0.00	1,250	742	59.36	2.05
Shinnecock Reservation	375	0	0	0.00	173	38	21.97	2.78
Smithtown town	113,406	3,280	3,213	2.89	36,828	1,263	3.43	3.10
Commack CDP (pt.)	23,914	59	31	0.25	7,572	140	1.85	3.21
Fort Salonga CDP (pt.)	3,574	26	0	0.73	1,174	57	4.86	3.18
Hauppauge CDP (pt.)	10,157	3	3	0.03	3,414	95	2.78	3.06
Head of the Harbor village	1,354	0	0	0.00	465	27	5.81	3.09
Kings Park CDP	17,773	2,052	2,052	11.55	5,591	260	4.65	2.95
Lake Ronkonkoma CDP (pt.)	4,289	35	35	0.82	1,401	72	5.14	3.20
Nesconset CDP	10,712	234	234	2.18	3,308	130	3.93	3.30
Nissequogue village	1,620	0	0	0.00	576	38	6.60	3.01
St. James CDP	12,703	476	476	3.75	4,428	172	3.88	2.87
Smithtown CDP	25,638	395	382	1.54	8,360	261	3.12	3.12
Stony Brook CDP (pt.)	0	0	0	0.00	0	0	0.00	0.00

1990 Census Population and Group Quarter Counts, Vacancy Status and Persons Per Occupied Housing Units
For
New York State Minor Civil Divisions by County and Places.

Area Name	Total Population	Total Group Quarters Population	Insitutional Group Quarters Population	Percent Total Group Quarters Population	Total Housing Units	Total Vacant Housing Units	Percent Vacant Housing Units	Persons Per Occupied Housing Units
Village of the Branch village.....	1,669	0	0	0.00	538	11	2.04	3.17
Southampton town.....	44,976	1,594	790	3.54	33,622	15,593	46.38	2.41
Bridgehampton CDP.....	1,997	21	0	1.05	1,573	811	51.56	2.59
East Quogue CDP.....	4,372	12	12	0.27	2,985	1,204	40.34	2.45
Flanders CDP.....	3,231	32	12	0.99	1,459	336	23.03	2.85
Hampton Bays CDP.....	7,893	136	10	1.72	5,227	1,951	37.33	2.37
North Haven village.....	713	0	0	0.00	505	198	39.21	2.32
North Sea CDP.....	2,530	0	0	0.00	2,198	1,132	51.50	2.37
Noyack CDP.....	2,059	0	0	0.00	1,854	951	51.29	2.28
Pine Valley village.....	1,486	658	656	44.28	357	59	16.53	2.78
Quogue village.....	898	0	0	0.00	1,282	905	70.59	2.38
Remsenburg-Speonk CDP.....	1,851	12	12	0.65	1,208	491	40.65	2.56
Riverside CDP.....	1,300	0	0	0.00	700	66	9.43	2.05
Sag Harbor village (pt.).....	1,276	0	0	0.00	957	359	37.51	2.13
Shinnecock Hills CDP.....	2,847	574	0	20.16	2,261	1,240	54.84	2.23
Southampton village.....	3,980	88	88	2.21	2,980	1,291	43.32	2.30
Southampton CDP.....	1,302	25	0	1.92	685	185	27.01	2.55
Watermill CDP.....	1,893	10	0	0.53	1,703	958	56.25	2.53
Westhampton CDP.....	2,129	26	0	1.22	1,486	667	44.89	2.57
Westhampton Beach village.....	1,571	0	0	0.00	2,485	1,777	71.51	2.22
Southold town.....	19,836	216	168	1.09	12,979	4,854	37.40	2.41
Cutchogue CDP.....	2,627	12	0	0.46	1,586	538	33.92	2.50
Greenport village.....	2,070	20	3	0.97	1,134	270	23.81	2.37
Greenport West CDP.....	1,614	150	150	9.29	1,128	487	43.17	2.28
Laurel CDP.....	1,094	0	0	0.00	641	233	36.35	2.68
Mattituck CDP.....	3,902	0	0	0.00	2,191	712	32.50	2.64
Peconic CDP.....	1,100	0	0	0.00	639	219	34.27	2.62
Southold CDP.....	5,192	16	0	0.31	3,539	1,290	36.45	2.30
Sullivan County.....	69,277	5,419	2,829	7.82	41,814	17,238	41.23	2.60
Bethel town.....	3,693	291	23	7.88	3,693	2,363	63.99	2.56
Callicoon town.....	3,024	255	22	8.43	1,648	541	32.83	2.50
Jeffersonville village.....	484	22	22	4.55	253	40	15.81	2.17
Cochecton town.....	1,318	17	17	1.29	889	385	43.31	2.58
Delaware town.....	2,633	361	38	13.71	1,244	356	28.62	2.56
Fallsburg town.....	11,445	2,631	1,922	22.99	6,322	3,075	48.64	2.71
South Fallsburg CDP.....	2,115	241	0	11.39	1,335	645	48.31	2.72
Woodridge village.....	783	8	8	1.02	476	145	30.46	2.34
Forestburgh town.....	614	0	0	0.00	465	242	52.04	2.75
Fremont town.....	1,332	1	0	0.08	1,084	585	53.97	2.67
Highland town.....	2,147	126	23	5.87	1,521	701	46.09	2.46
Liberty town.....	9,825	663	317	6.75	4,966	1,372	27.63	2.55
Liberty village.....	4,128	241	231	5.84	1,827	254	13.90	2.47
Lumberland town.....	1,425	0	0	0.00	1,276	700	54.86	2.47
Mamakating town.....	9,792	11	0	0.11	5,391	1,826	33.87	2.74
Bloomingburg village.....	316	0	0	0.00	149	27	18.12	2.59
Wurtsboro village.....	1,048	0	0	0.00	461	68	14.75	2.67
Neversink town.....	2,951	0	0	0.00	1,558	471	30.23	2.71
Rockland town.....	4,096	39	27	0.95	2,428	925	38.10	2.70
Livingston Manor CDP.....	1,482	0	0	0.00	603	74	12.27	2.80
Thompson town.....	13,711	925	440	6.75	8,331	3,198	38.39	2.49
Monticello village.....	6,597	439	262	6.65	3,043	494	16.23	2.42
Tusten town.....	1,271	99	0	7.79	998	498	49.90	2.34
Tioga County.....	52,337	363	318	0.69	20,254	1,416	6.99	2.76
Barton town.....	8,925	200	180	2.24	3,667	275	7.50	2.57
Waverly village.....	4,787	200	180	4.18	2,017	129	6.40	2.43
Berkshire town.....	1,303	0	0	0.00	475	29	6.11	2.92
Candor town.....	5,310	0	0	0.00	2,041	156	7.64	2.82
Candor village.....	869	0	0	0.00	344	25	7.27	2.72
Newark Valley town.....	4,189	0	0	0.00	1,540	110	7.14	2.93
Newark Valley village.....	1,082	0	0	0.00	454	45	9.91	2.65
Nichols town.....	2,525	0	0	0.00	932	59	6.33	2.89
Nichols village.....	573	0	0	0.00	206	10	4.85	2.92
Owego town.....	21,279	141	138	0.66	8,071	454	5.63	2.78
Apalachin CDP.....	1,208	0	0	0.00	482	33	6.85	2.69

ATTACHMENT D

SUFFOLK COUNTY WATER AUTHORITY

Edward J. Rosavitch, P.E.
Chief Engineer

Mailing Address - P.O. Box 38, Oakdale, NY 11769-0901
(516) 563-0202
Fax No.: (516) 589-5277

May 31, 1994

Ms. Diane Donovan Minsavage
Roy F. Weston, Inc.
Raritan Plaza I
4th Floor, Raritan Center
Edison, New Jersey 08837

Re: May 9, 1994 Correspondence

Dear Ms. Minsavage:

In response to your above-referenced inquiry, I offer the following information:

1. All water supplied for potable use by the SCWA is derived from wells, and no well or wellfield supplies more than 40% of the total pumpage for the Authority. All districts are interconnected to the maximum extent possible. However, there are a few isolated areas within the Authority's distribution system that are not interconnected, particularly in eastern Suffolk County. The distribution system surrounding your area of interest is fully interconnected to other neighboring SCWA supply areas.

2. As of May 31, 1993, the Authority operated 404 wells system-wide.

3. As of May 31, 1993, the Authority served 308,352 connections. Individual wells exist throughout the Authority's service area, particularly in Eastern Suffolk County. For the area of interest, the vast majority of the residences and businesses use SCWA water, but some private wells undoubtedly exist. Information on the location of residences and businesses that use individual wells for their supply is best obtained from the Suffolk County Department of Health Services.

4. There are three water districts which are supplied with water by the SCWA at wholesale cost: the Stony Brook Water District, the St. James Water District, and the Smithtown Water District. None of these districts are located in your area of interest.

Continued . . .

5. The following table summarizes your requested information. All wells are screened in the Magothy aquifer except where noted.

Well & Well Field	Depth	Screened Interval
Babylon District		
Adams Avenue #1	538	472-535
Adams Avenue #2	515	454-512
August Road #1	Retired	
August Road #2	600	545-597
August Road #3	627	555-624
August Road #4	636	560-633
Brook Avenue #1A	449	385-445
Brook Avenue #2	440	364-437
Brook Avenue #3	308	244-304
Brook Avenue #4	362	269-359
Circle Drive #1	201	171-201
Circle Drive #2	234	203-234
Circle Drive #3	621	546-618
Circle Drive #4	534	470-531
Deer Park/LIRR	Site Name & Location Unknown	
Gordon Avenue #1	660	585-657
Gordon Avenue #2	660	585-657
Plymouth Street #1	377	288-374
Plymouth Street #2A	229	185-225
Plymouth Street #3	415	346-416
Prospect Avenue #1	676	605-672
Prospect Avenue #2	674	603-671
Prospect Avenue #3	440	310-438
Smith Street #6	500	445-497
Smith Street #7	336	272-333
Smith Street #8	315	251-311
Wyandanch Avenue #1A	611	535-608
Wyandanch Avenue #2	625	556-622
Bay Shore District		
Bay Shore Road #1	463	388-460
Bay Shore Road #2	460	386-456
East Forks Road #4	306	232-303
East Forks Road #5	800	725-797
Emjay Boulevard #1	608	541-604
Emjay Boulevard #2	660	594-656
Emjay Boulevard #3	634	529-631
Harvest Lane #1	455	405-452
Harvest Lane #1A	467	379-464
Harvest Lane #2	465	377-462
Harvest Lane #3	623	514-619
Landscape Drive	Future Site	

Continued . . .

Well & Well Field	Depth	Screened Interval
Bay Shore District (Cont'd)		
Locust Drive #1	128	94-125 (Glacial Aquifer)
Locust Drive #2	130	96-127 (Glacial Aquifer)
Locust Drive #3	611	516-607
Locust Drive Tank Site	Future Site	
North Clinton Avenue	Future Site	
Sunrise Highway #1	233	179-229
Sunrise Highway #2	308	218-305
Sunrise Highway #3	718	612-715
Raleigh Lane	Future Site	
Thomas Avenue #1	713	649-709
Thomas Avenue #2	667	603-663
Union Boulevard #1	731	659-728
Union Boulevard #2	600	469-597
Union Boulevard #3	721	657-718

I hope the above is satisfactory for your needs.

Sincerely,

E. J. Rosavitch, P.E.
Executive Director/Chief Engineer
Waterworks Division

EJR:SRC:dmc

cc: S. R. Dassler
S. R. Colabufo, CPG

WESTON

ATTACHMENT E

DDMignavale
Originator

PHONE CONVERSATION RECORD

Conversation with:

Name Mr. Dafflon

Company Suffolk County Water Authority

Address _____

_____

Phone (516) 563-0202

Subject Deer Park/LIRR wellfield

Date June / 10 / 1994

Time 11:40 (AM)/PM

☒ Originator Placed Call

☐ Originator Received Call

W.O. NO. 04200-022-081-0001e-02

Notes: The Deer Park/LIRR wellfield is referred to as the "Industry Court" field; there are two wells and a stand-pipe. Well info is as follows:

Well #1, depth = 283'4" - Magothy

Well #2, depth = 654'5" - Magothy

DDM

☒ File Commercial Envelope.

☐ Tickle File ____/____/____

☐ Follow-Up By: _____

☐ Copy/Route To: _____

_____

Follow-Up-Action: _____

_____

_____

_____

Originator's Initials DDM

RFW 110-4-83

ATTACHMENT F

United States Department of the Interior

GEOLOGICAL SURVEY

Water Resources Division
5 Aerial Way
Syosset, New York 11791
(516) 938-8830

May 31, 1994

Dennis J. Foerter
Roy F. Weston, Inc
Raritan Plaza 1
4th Floor, Raritan Center
Edison, New Jersey 08837-3616

Dear Mr. Foerter:

Enclosed is a printout of the well location and header data that you requested for the 4 mile radius search around 2 areas in Nassau and Suffolk Counties, New York. Also enclosed is the associated codes for the data.

The enclosed information is provisional and may be subject to revision at any time. In addition, the U.S. Geological Survey's computer database may not include every well within the requested retrieval area, or contain a complete record of data collected at each well site. Therefore, it is advisable to check with other federal, state and local agencies if a complete data record is required.

The total charge for the work, time and materials involved in completing this request is $215.57.. A bill requesting payment for the above amount will be mail to you separately.

If you have any questions about the information please feel to contact me at (516) 938-8830.

Sincerely,

Ronald Busciolano
Hydrologist

#212

DESCRIPTION OF HEADER FILE RETRIEVAL INFORMATION

WELL = New York State well identification number (ex. K 2859. 1)

AQUIFER = Code of aquifer in which well is screened (ex. 112GLCLU)

STATION ID = Unique station identification number (U.S.G.S. use only)

LAT-LONG = Latitude and longitude of well

SQ = Sequence number (U.S.G.S. use only)

LSD = Land surface elevation at well, in feet from NGVD of 1929

MP = Measuring point elevation of well, in feet from NGVD of 1929

DEPTH = Total depth of well casing, in feet below land surface

SCREEN TOP = Depth to top of screen, in feet below land surface

SCREEN BOTTOM = Depth to bottom of screen, in feet below land surface

MAX DRILL = Maximum depth well was drilled, in feet below land surface

TOWN = Town code of well

COMM = Community code of well (U.S.G.S. use only)

SWDST = Sewer district code where well is located

ZON = Psysiographic zone code of well

HGSTRM = Hagstrom Atlas coordinate of well

WELUS = Primary and secondary well use code of well

AQUIFER CODES

112GLCLU = Upper Glacial Aquifer

112GRDR = Gardiners Clay

112JMCO = Jameco Aquifer

112PGFG = Port Washington Confining Unit

112PGQF = Port Washington Aquifer

112SMTN = Smithtown Clay

11220CL = 20-Foot Clay

211LLYD = Lloyd Aquifer

211MGTY = Magothy Aquifer

211MMGD = Monmouth Greensand

211RNCF = Raritan Confining Unit

400BCPX = Basement Complex (Bedrock)

999MMMMM = More Than One Unit

WELL USE CODES

1 = Observation

2 = Recharge

3 = Test

4 = Well not used

5 = Withdrawl, unspecified

6 = Destrcyed

7 = Public supply

8 = Fire well

9 = Not found last time visited

D = Domestic supply

P = Plugged

COUNTY LETTER CODES
(for N.Y.S. well numbers)
(ex.- K 1234. 1)

S = Suffolk

N = Nassau

Q = Queens

K = Kings

R = Richmond

B = Bronx

M = Manhattan

MODIFYING LETTERS
(for N.Y.S. well numbers)
(ex.- K 1234. 1T)

D = Diffusion (injection) well

T = Test hole

A-Z = Replacement well with new location (except letters D or T)

HAGSTROM ATLAS LOCATION DESCRIPTION

Column 1 = County letter (ex.- ND1462)

Column 2 = Map coordinate letter (ex.- ND1462)

Column 3-4 = Map coordinate number (ex.- ND1462)

Column 5 = Coordinate box subdivision, east-west direction (ex.- ND1462)

Column 6 = Coordinate box subdivision, north-south direction (ex.- ND1462)

Subdivisions run from 0-9, starting from the upper left corner

ZONE CODES

B = Barrier beach

N = North fork

S = South fork

SEWER DISTRICT CODES

NASSAU COUNTY

1 = District #1 (Inwood)

2 = District #2 (Bay Park Plant)

3 = District #3 (Ceder Creek Plant)

SUFFOLK COUNTY

1 = Port Jefferson

2 = Holbrook

3 = Southwest Sewer District

4 = Birchwood/North Shore

5 = Strathmore/Huntington

6 = Kings Park

7 = Medford

8 = Strathmore Ridge

9 = College Park

10 = Stony Brook

11 = Selden

14 = Parkland

15 = Nob Hill

TOWN CODES

1 = Hempstead

2 = North Hempstead

3 = Oyster Bay

4 = Babylon

5 = Brookhaven

6 = East Hampton

7 = Huntington

8 = Islip

9 = Riverhead

10 = Shelter Island

11 = Smithtown

12 = Southampton

13 = Southold

WATER LEVEL MEASUREMENT ACCURACY CODES
(AC ON PRINTOUT)

A = Measured, accurate to within 1 foot

B = Measured, less accurate than 1 foot

C = Airline measurement

D = From driller's log

E = From electric or other borehole log

F = Estimated

G = Reported (non-USGS measurement)

H = Pressure gage

I = Questionable measurement

WATER LEVEL MEASUREMENT REMARK CODES
(REMS ON PRINTOUT)

A = Well being pumped

B = Well pumped recently

C = Nearby well being pumped

D = Nearby well pumped recently

E = Estimated

F = Dry

G = Measurement by another agency

H = Recorder measurement

I = Affected by atmospheric pressure

J = Other

K = Tidal

L = Terminated measurement

M = Destroyed

N = Replaced

P = Estimated data

Q = Dewatering in area

R = Measured by airline pressure

U = Unknown data source

V = Plugged well

W = Measurement not within 1 hour of high tide

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oject ID: DEFAULT

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ng Island, NY (SNYSST).

Commercial Envelope Mfg 51

	WELL	AQUIFER	STATION ID	LAT-LONG	SQ	LSD	MP	DEPTH	--SCREEN-- TOP	BOTTOM	MAX DRILL	TOWN	COMN	SWDST	ZON	HGSTRM	WELUS
51	S 10373. 1	112GLCLU	404322073165501	4043220731655	01	0.0	0.00	0	0	0	0	0	0	0	SO	740	
52	S 10377. 1	112GLCLU	404315073164801	4043150731648	01	0.0	0.00	0	0	0	0	0	0	0	SO	751	
53	S 10706. 1	112GLCLU	404842073172001	4048420731720	01	130.0	0.00	137	132	137	0	10	0	0	SJ	857	5
54	S 11127. 1	112GLCLU	404453073211201	4044530732112	01	0.0	51.71	43	0	0	0	0	0	0	SM	530	
55	S 11204. 1		404433073212701	4044330732127	01	53.0	55.16	44	0	0	0	0	0	0	SM	512	1
56	S 11240. 1	112GLCLU	404540073211001	4045400732110	01	61.0	62.24	45	0	0	0	0	0	0	SL	554	1
57	S 11267. 1	112GLCLU	404719073202901	4047190732029	01	110.0	0.00	102	87	102	0	7	143	0	SK	632	5
58	S 12035. 1	112GLCLU	404527073220901	4045270732209	01	70.0	71.32	45	0	0	0	0	0	0	SL	494	1
59	S 12141. 1	112GLCLU	404343073154101	4043380731540	05	26.0	0.00	0	0	0	0	0	0	0	SO	820	
60	S 12142. 1	112GLCLU	404343073154102	4043380731540	02	0.0	0.00	0	0	0	0	0	0	0	SO	820	
61	S 12103. 1	112GLCLU	404821073185601	4048210731856	01	165.0	0.00	169	145	155	0	7	133	0	SJ	757	5
62	S 12710. 1T	112GLCLU	404402073193000	4044020731930	03	40.0	41.10	0	0	0	0	0	0	0	SN	610	
63	S 12873. 1T		404558073182501	4045580731825	01	82.0	0.00	388	0	0	0	4	159	0	SL	727	3
64	S 13534. 1T	112GLCLU	404531073150601	4045290731504	01	62.0	0.00	126	89	119	126	8	187	0	SM	907	7
65	S 13642. 1	112GLCLU	404821073171501	4048210731715	01	90.0	0.00	95	79	95	0	11	169	0	SK	840	5
66	S 14119. 1	112GLCLU	404527073191501	4045270731915	01	70.0	71.29	44	0	0	0	0	0	0	SL	669	1
67	S 14340. 1		404352073205201	4043520732052	01	48.9	48.63	46	0	0	0	0	0	0	SM	538	
68	S 14471. 1	112GLCLU	404425073200701	4044250732007	01	44.0	45.53	45	0	0	0	0	0	0	SM	585	1
69	S 15171. 1		404305073172001	4043050731720	01	31.0	31.89	21	0	0	0	0	0	0	SO	711	1
70	S 15775. 1T		404304073163501	4043040731635	01	25.0	0.00	291	0	0	0	8	0	0	SO	763	3
71	S 15809. 1	112GLCLU	404724073165001	4047240731650	01	100.0	0.00	153	118	150	0	8	189	0	SK	848	5
72	S 15810. 1		404708073165201	4047080731652	01	90.0	0.00	202	170	202	202	8	189	0	SL	840	5
73	S 15898. 1	112GLCLU	404536073163301	4045370731634	01	70.0	78.41	128	95	128	133	8	190	0	SM	823	7
74	S 15914. 1	112GLCLU	404628073204701	4046280732047	01	85.0	0.00	124	113	124	0	7	143	0	SK	598	5
75	S 16175. 1	112GLCLU	404534073163101	4045340731631	01	70.0	73.14	130	95	130	130	8	190	0	SM	823	7
76	S 16176. 1	112GLCLU	404528073150601	4045280731506	01	62.0	0.00	117	81	117	121	8	202	0	SM	907	7
77	S 16256. 1T	211MGTY	404402073193202	4044020731930	02	41.0	37.14	650	544	597	0	4	164	0	SN	610	7
78	S 16483. 1		404322073193201	4043220731932	01	55.5	32.88	47	0	0	0	0	0	0	SN	595	
79	S 16484. 1		404259073193801	4042590731938	01	20.0	22.19	44	0	0	0	0	0	0	SN	588	1
80	S 16608. 1		404733073153601	4047330731536	01	110.0	0.00	140	110	140	168	8	189	0	SK	929	7
81	S 16700. 1	112GLCLU	404331073192901	4043310731929	01	30.0	0.00	58	47	58	0	4	164	0	SN	604	5
82	S 17807. 1		404457073194001	4044570731940	01	0.0	0.00	0	0	0	0	0	0	0	SM	622	
83	S 18075. 1T	211MGTY	404707073190501	4047070731905	01	110.0	0.00	627	0	0	0	7	0	0	SK	716	3
84	S 18261. 1	211MGTY	404707073190401	4047060731903	01	110.0	108.59	388	290	373	388	7	159	0	SK	716	7
85	S 18383. 1	112GLCLU	404335073203201	4043350732032	01	0.0	0.00	0	0	0	0	0	0	0	SN	541	
86	S 18506. 1	211MGTY	404528073150501	4045290731505	01	62.0	0.00	383	322	383	653	4	167	0	SM	907	7
87	S 18621. 1	112GLCLU	404704073190401	4047080731905	01	110.0	110.00	201	144	201	250	7	159	0	SK	716	7
88	S 19048. 1	211MGTY	404301073161901	4043040731617	01	25.0	0.00	727	663	726	735	8	198	0	SO	773	7
89	S 19965. 1	112GLCLU	404225073181201	4042250731812	01	25.0	0.00	46	0	0	0	8	209	0	SO	655	5
90	S 20318. 1T	211MGTY	404733073153101	4047330731531	01	110.0	0.00	436	370	430	605	8	189	0	SL	920	7
91	S 20566. 1	211MGTY	404317073153601	4043160731541	01	26.0	29.64	755	710	772	755	8	187	0	SO	820	7
92	S 20635. 1T	211MGTY	404402073193201	4044020731932	01	41.0	0.00	704	556	626	0	4	164	0	SN	610	7
93	S 21006. 1	112GLCLU	404809073191301	4048090731913	01	143.0	0.00	376	310	372	402	7	0	0	SJ	728	7
94	S 21244. 1	211MGTY	404304073162001	4043040731615	01	23.0	27.50	602	465	593	730	8	187	0	SO	773	7
95	S 21366. 1	211MGTY	404357073181601	4043570731816	01	43.0	46.52	470	414	454	470	8	209	0	SN	683	7
96	S 21900. 1		404401073194801	4044010731948	01	0.0	0.00	0	0	0	0	0	0	0	SM	599	
97	S 22389. 1	211MGTY	404357073181502	4043570731814	02	44.9	0.00	466	0	465	503	8	209	0	SN	683	7
98	S 22548. 1	211MGTY	404705073190701	4047080731902	01	114.0	116.68	415	347	403	541	7	159	0	SK	716	7
99	S 23045. 1T		404502073183201	4045020731822	01	60.0	0.00	605	0	0	0	4	159	0	SM	704	

	WELL	AQUIFER	STATION ID	LAT-LONG	SQ	LSD	MP	DEPTH	--SCREEN-- TOP	BOTTOM	MAX DRILL	TOWN	COMT	SW	ST	ZON	POSITION	WELLS
1 S	17. 1		404342073214501	4043420732145	01	50.0	0.00	125	0	0	0	4	166	0			SM 475	3
2 S	18. 1		404512073214201	4045120732142	01	56.0	0.00	400	0	0	0	4	167	0			SL 915	3
3 S	19. 1	112GLCLU	404730073194201	4047300731942	01	130.0	0.00	203	0	0	0	7	133	0				
4 S	24. 1	211MGTY	404752073201301	4047520732013	01	150.0	0.00	132	128	132	0	7	143				SJ [illegible]	5
5 S	57. 1		404315073180301	4043150731803	01	53.0	0.00	820	0	0	0	8	[illegible]	0			SM 472	5
6 S	38. 1	211MGTY	404318073170201	4043180731702	01	32.0	34.19	200	0	0	0	4	0	0			SO 780	7
7 S	42. 1		404731073164701	4047310731647	01	120.0	0.00	1008	0	0	0	3	149	0			SK 557	3
8 S	61. 1		404638073153601	4046380731536	01	93.0	0.00	194	0	0	194	8	189	0			SL 917	7
9 S	62. 1		404640073152101	4046400731521	01	92.0	0.00	200	0	0	200	8	189	0			SL 917	7
10 S	78. 1		404415073203101	4044150732031	01	41.0	0.00	121	0	0	0	4	157	0			SM 556	
11 S	83. 1		404357073204701	4043570732047	01	40.0	0.00	116	0	0	0	5	0	0			SM 538	
12 S	291. 1		404458073143001	4044580731430	01	40.0	0.00	0	0	0	0	5	0	0			SN 922	
13 S	302. 1	112GLCLU	404623073143201	4046230731432	01	60.0	0.00	52	0	0	0	8	189	0			SM 960	5
14 S	1411. 1		404606073214401	4046060732214	01	0.0	0.00	0	0	0	0	0	0	0			SK 508	
15 S	1723. 1	112GLCLU	404749073161001	4047490731610	01	122.0	0.00	159	0	0	0	8	189	0			SK 896	5
16 S	1807. 1	112GLCLU	404319073184601	4043190731846	01	23.0	24.67	21	0	0	0	8	209	0	S		SN 637	6
17 S	1807. 2	112GLCLU	404319073184602	4043190731846	02	24.8	24.25	10	0	0	0	8	209	0	S		SN 637	6
18 S	1807. 3	112GLCLU	404319073184603	4043190731846	03	23.0	23.97	8	0	0	0	8	209	0	S		SN 637	6
19 S	1807. 4	112GLCLU	404319073184604	4043190731846	04	23.0	23.37	21	0	0	0	8	209	0	S		SN 637	6
20 S	1807. 5	112GLCLU	404319073184605	4043190731846	05	23.0	23.21	6	0	0	0	8	209	0	S		SN 637	1
21 S	1809. 1	112GLCLU	404351073164901	4043510731649	01	40.9	41.49	27	0	0	0	8	209	0	S		SN 766	6
22 S	1809. 2	112GLCLU	404351073164902	4043510731649	02	41.5	42.27	26	0	0	0	8	209	0	S		SN 766	6
23 S	1809. 3	112GLCLU	404351073164903	4043510731649	03	42.0	41.37	25	0	0	0	8	209	0	S		SN 766	6
24 S	1809. 4	112GLCLU	404351073164904	4043510731649	04	42.0	41.55	25	0	0	0	8	209	0	S		SN 766	1
25 S	1810. 1	112GLCLU	404614073164401	4046140731647	01	89.7	89.87	46	42	46	0	8	194	0			SL 827	6
26 S	1810. 2	112GLCLU	404613073164702	4046130731647	02	93.7	93.05	48	46	48	0	8	194	0			SL 828	6
27 S	1810. 3	112GLCLU	404614073164403	4046140731644	03	90.1	91.13	56	54	56	0	8	194	0			SL 828	6
28 S	1810. 4	112GLCLU	404614073164404	4046140731644	04	90.8	89.80	51	0	0	0	8	194	0			SL 828	1
29 S	1816. 1		404610073184001	4046100731840	01	80.0	84.02	37	0	0	0	0	0	0			SL 714	1
30 S	1817. 1		404520073214501	4045200732145	01	58.0	59.24	23	0	0	0	0	0	0			SL 515	1
31 S	2314. 1	211MGTY	404605073211801	4046050732118	01	80.0	93.09	480	465	480	0	4	167	0			SL 550	5
32 S	2424. 1	211MGTY	404603073221401	4046030732214	01	110.0	0.00	150	147	150	0	7	0	0			SK 509	5
33 S	2455. 1		404309073172701	4043090731727	01	33.0	33.27	18	0	0	0	0	0	0			SO 710	1
34 S	3515. 1		404445073153701	4044450731537	01	0.0	0.00	35	0	0	0	0	0	0			SN 851	1
35 S	3516. 1	112GLCLU	404509073152301	4045090731523	01	60.0	59.77	37	0	0	0	0	0	0			SM 879	1
36 S	4206. 1	112GLCLU	404630073180001	4046300731800	01	80.0	0.00	125	81	101	0	4	159	0			SL 763	5
37 S	4270. 1		404725073162201	4047250731622	01	119.2	118.17	83	0	0	0	0	0	0			SK 579	1
38 S	4519. 1	112GLCLU	404813073194401	4048130731944	01	140.0	0.00	118	115	118	0	7	133	0			SJ 706	5
39 S	4534. 1	112GLCLU	404740073202901	4047400732029	01	130.0	0.00	120	115	120	0	7	143	0			SJ 649	5
40 S	5134. 1	211MGTY	404756073203301	4047560732033	01	175.0	0.00	160	152	157	0	7	143	0			SJ 647	5
41 S	5716. 1	211MGTY	404630073215001	4046300732150	01	200.0	0.00	159	0	159	0	7	0	0			SK 536	5
42 S	7148. 1	211MGTY	404804073203701	4048040732037	01	170.0	0.00	144	138	144	0	7	143	0			SJ 646	5
43 S	8323. 1	112GLCLU	404343073154103	4043380731540	03	26.0	0.00	0	0	0	0	0	0	0			SO 820	
44 S	8943. 1	211MGTY	404649073215201	4046490732152	01	240.0	0.00	268	258	266	0	7	143	0			SK 543	4
45 S	9645. 1	112GLCLU	404412073185701	4044120731857	01	0.0	48.30	43	0	0	0	0	0	0			SM 659	
46 S	9646. 1	112GLCLU	404446073191801	4044460731918	01	51.0	53.06	45	0	0	0	0	0	0			SM 644	1
47 S	9904. 1	112GLCLU	404343073154104	4043380731540	04	26.0	0.00	0	0	0	0	0	0	0			SO 820	
48 S	9905. 1	112GLCLU	404343073154105	4043380731541	05	26.0	0.00	0	0	0	0	0	0	0			SO 820	
49 S	10222. 1	112GLCLU	404448073183001	4044480731830	01	0.0	61.22	46	0	0	0	0	0	0			SM 695	
50 S	10370. 1		404347073195501	4043470731955	01	38.0	39.50	42	0	0	0	0	0	0			[illegible]	

	WELL	AQUIFER	STATION ID	LAT-LONG	SQ	LSD	MP	DEPTH	--SCREEN-- TOP	BOTTOM	MAX DRILL	TOWN	COMM	SWDST	ZON	HGSTRM	WELUS
101	S 23058. 1	211MGTY	404345073171101	4043450731711	01	40.0	0.00	217	187	213	0	8	190	0	SN	746	5
102	S 23445. 1	211MGTY	404659073164101	4046590731642	01	110.0	113.56	610	541	605	610	8	189	0	SL	842	7
103	S 23522. 1	112GLCLU	404808073191301	4048080731913	01	145.0	0.00	424	358	420	424	7	133	0	SJ	728	7
104	S 23848. 1	211MGTY	404430073211301	4044300732113	01	50.0	52.34	634	558	631	669	4	167	0	SM	523	7
105	S 24769. 1	211MGTY	404819073160301	4048190731603	01	139.0	137.83	810	800	810	858	8	189	0	SK	913	1
106	S 24770. 1	211MGTY	404829073161502	4048190731603	02	139.0	138.12	434	424	434	0	11	198	0	SK	913	1
107	S 24771. 1	112GLCLU	404820073160303	4048200731603	03	139.0	137.94	127	117	127	0	8	198	0	SK	912	1
108	S 24846. 1	211MGTY	404639073151401	4046390731514	01	90.0	0.00	597	461	517	597	8	189	0	SL	927	7
109	S 25511. 1	112GLCLU	404407073154701	4044070731547	01	40.0	0.00	80	76	80	0	8	187	0	SN	836	5
110	S 25617. 1	211MGTY	404459073182401	4045000731824	01	64.0	67.69	441	359	440	0	4	159	0	SM	704	7
111	S 25674. 1	211MGTY	404431073211401	4044310732115	01	50.0	53.30	625	550	625	654	4	167	0	SM	523	7
112	S 26535. 1	211MGTY	404318073153801	4043380731540	01	26.0	29.25	776	710	773	782	8	187	0	SO	820	7
113	S 27739. 1	211MGTY	404603073214803	4046030732148	03	139.9	141.37	850	840	850	0	4	167	0	SL	520	1
114	S 27740. 1	211MGTY	404603073214804	4046030732148	04	140.5	141.85	429	419	429	0	0	0	0	SL	520	1
115	S 27741. 1	211MGTY	404603073214805	4046030732148	05	140.0	0.00	0	0	0	0	0	0	0	SL	520	1
116	S 28449. 1	112GLCLU	404603073214806	4046030732148	06	140.0	141.18	98	0	0	0	0	0	0	SL	520	1
117	S 28503. 1	211MGTY	404318073201901	4043180732019	01	30.0	31.05	676	599	676	0	4	166	0	SN	544	7
118	S 30193. 1	112GLCLU	404524073160601	4045240731606	01	65.0	0.00	80	76	80	0	8	190	0	SM	845	5
119	S 31104. 1	211MGTY	404703073164401	4047000731641	01	110.0	105.47	658	592	655	665	8	189	0	SL	842	7
120	S 32412. 1		404736073153201	4047360731532	01	110.0	0.00	900	0	0	900	8	189	0	SK	929	7
121	S 32841. 1T		404534073210802	4045340732108	02	61.0	0.00	648	0	0	0	4	167	0	SL	555	3
122	S 33005. 1	211MGTY	404317073201801	4043180732018	01	33.0	27.59	681	605	679	0	4	0	0	SN	554	7
123	S 34022. 1T		404657073210401	4046570732104	01	220.0	0.00	560	400	487	0	7	133	0	SK	594	3
124	S 34030. 1	211MGTY	404536073210801	4045360732108	01	54.0	58.45	538	0	538	563	4	167	0	SL	554	7
125	S 34031. 1	211MGTY	404534073210801	4045340732108	01	54.1	0.00	521	0	521	563	4	167	0	SL	555	7
126	S 34032. 1	112GLCLU	404808073191201	4048080731912	01	150.0	0.00	441	369	436	441	7	133	0	SJ	733	7
127	S 34063. 1	211MGTY	404635073214001	4046350732140	01	200.0	0.00	736	656	736	742	7	148	0	SK	556	7
128	S 34064. 1	211MGTY	404635073214002	4046350732140	02	200.0	0.00	632	0	0	664	7	148	0	SK	556	7
129	S 35669. 1T	112GLCLU	404604073175101	4046040731751	01	70.0	0.00	118	91	101	0	4	159	0	SL	757	1
130	S 36138. 1	112GLCLU	404800073193501	4048000731935	01	149.0	152.74	110	108	110	112	0	0	0	SJ	708	6
131	S 36139. 1	112GLCLU	404600073193201	4046000731932	01	76.0	70.91	21	0	0	0	4	159	0	SL	654	1
132	S 36460. 1	211MGTY	404627073070901	4045370731635	01	76.0	70.10	611	0	611	0	8	189	0	SM	823	7
133	S 36714. 1	211MGTY	404458073182502	4044580731824	02	63.0	0.00	308	244	304	354	4	159	0	SM	704	7
134	S 37861. 1	211MGTY	404406073193401	4044020731929	01	41.8	36.16	636	0	636	0	0	0	0	SN	610	7
135	S 38192. 1	211MGTY	404528073150402	4045310731501	02	65.9	0.00	306	0	0	605	8	189	0	SM	906	7
136	S 39024. 1	211MGTY	404358073161601	4043570731815	01	45.0	0.00	623	0	623	655	8	198	0	SN	683	7
137	S 40497. 1	211MGTY	404606073174602	4046040731752	02	74.0	74.29	283	220	280	708	4	0	0	SL	757	7
138	S 42762. 1	211MGTY	404305073161401	4043050731615	01	26.0	21.02	714	650	710	739	8	187	0	SO	783	7
139	S 43088. 1T	211MGTY	404640073152102	4046400731521	02	90.0	90.00	902	0	0	0	8	0	0	SL	917	3
140	S 43814. 1	112GLCLU	404455073215001	4044550732150	01	60.0	63.29	50	35	45	0	4	167	0	SL	508	1
141	S 43817. 1	112GLCLU	404618073205001	4046180732050	01	70.0	66.82	56	41	51	0	4	167	0	SK	599	1
142	S 43818. 1	112GLCLU	404257073202401	4042570732024	01	25.0	25.04	36	20	30	0	4	166	0	SN	536	1
143	S 43820. 1	112GLCLU	404649073184001	4046490731840	01	110.0	104.13	98	82	92	0	4	159	0	SK	729	1
144	S 43821. 1	112GLCLU	404302073185501	4043020731855	01	22.4	22.40	36	21	31	0	4	164	0	SN	629	1
145	S 43822. 1	112GLCLU	404302073185502	4043020731855	02	20.0	22.02	74	59	69	0	4	164	0	SN	629	1
146	S 44137. 1T	211MGTY	404432073151304	4044320731513	04	39.0	39.00	720	0	0	0	8	187	0	SN	874	3
147	S 45347. 1	211MGTY	404726073162601	4047260731626	01	130.0	0.00	643	587	643	0	0	0	0	SK	879	5
148	S 45348. 1	211MGTY	404729073162801	4047290731628	01	130.0	0.00	650	590	648	0	0	0	0	SK	878	5
149	S 45446. 1	112GLCLU	404400073154402	4044000731544	02	38.0	38.49	41	29	39	0	0	0	0	SN	837	1
150	S 45638. 1	211MGTY	404804073204401	4048040732044	01	163.6	164.34	725	653	720	750	7	177				

	WELL	AQUIFER	STATION ID	LAT-LONG	SQ	LSD	MP	DEPTH	--SCREEN-- TOP	BOTTOM	MAX DRILL	TOWN	COMM	SWDST	ZON	HGSTRM	WELUS
151	S 45639. 1	211MGTY	404805073203701	4048040732047	01	154.5	156.00	745	660	735	748	7	133	0	SJ	636	7
152	S 45717. 1	112GLCLU	404618073164501	4046180731645	01	93.0	89.84	75	63	75	0	0	0	0	SL	827	1
153	S 45935. 1	112GLCLU	404851073185101	4048510731851	01	285.0	285.00	605	539	599	660	4	159	0	SJ	763	7
154	S 46235. 1	211MGTY	404432073151300	4044320731513	02	39.0	37.40	713	649	710	0	8	187	0	SN	874	7
155	S 46287. 1	112GLCLU	404400073154401	4044000731544	01	38.7	38.70	88	76	86	0	0	0	0	SN	837	1
156	S 46830. 1	211MGTY	404606073174601	4046060731746	01	76.0	67.75	655	550	651	663	0	0	0	SL	767	7
157	S 47435. 1	211MGTY	404317073201802	4043170732018	02	0.0	0.00	441	0	441	0	0	0	0	SN	554	7
158	S 50546. 1	211MGTY	404432073151303	4044320731513	03	39.0	36.45	668	604	665	0	0	0	0	SN	874	7
159	S 52236. 1	112GLCLU	404504073221901	4045040732219	01	80.0	0.00	98	94	98	0	4	167	0	SL	476	
160	S 52384. 1	112GLCLU	404523073181101	4045230731811	01	63.0	66.45	33	16	21	0	0	0	0	SM	722	1
161	S 54155. 1T	211MGTY	404326073173501	4043260731735	01	38.0	0.00	721	0	0	0	0	0	0	SN	718	1
162	S 55463. 1	211MGTY	404458073182503	4044580731825	03	62.4	0.00	360	0	360	0	0	0	0	SM	694	7
163	S 55733. 1	211MGTY	404326073174101	4043260731741	01	38.0	0.00	233	180	230	0	0	0	0	SN	708	1
164	S 55734. 1	211MGTY	404326073174102	4043260731741	02	0.0	0.00	0	0	0	0	0	0	0	SN	708	7
165	S 56347. 1		404513073212401	4045130732124	01	0.0	0.00	0	0	0	0	0	0	0	SL	537	
166	S 56348. 1		404514073203501	4045140732035	01	0.0	0.00	0	0	0	0	0	0	0	SL	588	
167	S 56349. 1		404509073210301	4045090732103	01	0.0	0.00	0	0	0	0	0	0	0	SL	558	
168	S 56350. 1		404440073201201	4044400732012	01	0.0	0.00	0	0	0	0	0	0	0	SM	583	
169	S 56351. 1		404417073210401	4044170732104	01	0.0	0.00	0	0	0	0	0	0	0	SM	525	
170	S 56352. 1	112GLCLU	404418073204401	4044180732044	01	34.3	34.03	20	17	20	0	4	0	0	SM	545	1
171	S 56353. 1	112GLCLU	404400073195601	4044000731956	01	33.6	32.65	20	17	20	0	4	164	0	SM	589	
172	S 56354. 1		404337073204801	4043370732048	01	0.0	0.00	0	0	0	0	0	0	0	SN	520	
173	S 56355. 1	112GLCLU	404355073202001	4043550732020	01	26.4	25.95	20	17	20	0	4	164	0	SM	569	
174	S 56356. 1		404331073193101	4043310731931	01	0.0	0.00	0	0	0	0	0	0	0	SN	604	
175	S 56357. 1	112GLCLU	404309073200101	4043090732001	01	17.1	16.64	20	17	20	0	4	0	0	SN	566	
176	S 56358. 1		404313073195601	4043130731956	01	0.0	0.00	0	0	0	0	0	0	0	SN	565	
177	S 56359. 1	112GLCLU	404258073195501	4042580731955	01	17.1	16.64	20	17	20	0	4	0	0	SN	567	
178	S 56360. 1		404241073192801	4042410731928	01	0.0	0.00	0	0	0	0	0	0	0	SO	580	
179	S 56423. 1	211MGTY	404413073171801	4044180731718	01	50.0	0.00	800	0	0	0	0	0	0	SN	742	3
180	S 57008. 1	211MGTY	404658073164201	4046580731642	01	111.0	0.00	635	529	632	0	0	0	0	SL	842	3
181	S 59347. 1	211MGTY	404419073171601	4044190731716	01	51.0	0.00	463	388	458	515	0	0	0	SN	752	7
182	S 61356. 1T		404805073203702	4048040732049	01	152.8	0.00	752	0	0	0	0	0	0	SJ	636	
183	S 61356. 2	211MGTY	404804073204902	4048040732049	02	152.8	154.36	678	618	678	0	0	0	0	SJ	636	5
184	S 62720. 1	112GLCLU	404510073165501	4045100731655	01	0.0	0.00	0	0	0	0	0	0	0	SM	796	1
185	S 62721. 1		404454073165501	4044540731655	01	0.0	0.00	0	0	0	0	0	0	0	SM	798	
186	S 63741. 1		404430073183001	4044300731830	01	0.0	0.00	0	0	0	0	0	0	0	SM	636	
187	S 63747. 1		404426073181201	4044260731812	01	50.0	51.55	0	0	0	0	0	0	0	SN	699	
188	S 63761. 1		404433073203301	4044330732033	01	0.0	0.00	0	0	0	0	0	0	0	SM	564	
189	S 63822. 1		404546073135901	4045460731359	01	0.0	51.01	0	0	0	0	0	0	0	SM	976	
190	S 63823. 1		404531073140801	4045310731408	01	0.0	52.03	0	0	0	0	0	0	0	SM	968	
191	S 63844. 1		404332073145101	4043320731451	01	0.0	21.54	0	0	0	0	0	0	0	SO	872	
192	S 63848. 1	112GLCLU	404353073144501	4043530731445	01	0.0	15.60	0	0	0	0	0	0	0	SO	880	
193	S 63849. 1		404417073143401	4044170731434	01	0.0	28.38	0	0	0	0	0	0	0	SN	907	
194	S 63850. 1		404439073142601	4044390731426	01	0.0	37.79	0	0	0	0	0	0	0	SN	924	
195	S 63851. 1		404420073151401	4044200731514	01	35.0	34.51	0	0	0	0	0	0	0	SN	865	
196	S 63852. 1		404430073154801	4044300731548	01	0.0	44.92	0	0	0	0	0	0	0	SN	843	
197	S 63853. 1		404420073154101	4044200731541	01	0.0	43.41	0	0	0	0	0	0	0	SN	844	
198	S 63854. 1		404317073155001	4043170731550	01	0.0	20.51	0	0	0	0	0	0	0	SO	802	
199	S 63855. 1		404301073154101	4043010731541	01	85.0	19.80	0	0	0	0	0	0	0	SO	815	

WELL	AQUIFER	STATION ID	LAT-LONG	SQ	LSD	MP	DEPTH	--SCREEN-- TOP	BOTTOM	MAX DRILL	TOWN	COMM	SWDST	ZON	HGSTRM	WELUS
201 S 64189. 1		404326073172501	4043260731725	01	0.0	0.00	0	0	0	0	0	0	0	SN	728	
202 S 64190. 1		404336073175801	4043360731758	01	0.0	38.80	0	0	0	0	0	0	0	SN	696	
203 S 64191. 1		404252073181701	4042520731817	01	0.0	26.54	0	0	0	0	0	0	0	SO	651	
204 S 64197. 1		404234073192401	4042340731924	01	0.0	19.44	0	0	0	0	0	0	0	SO	581	
205 S 64221. 1		404314073192401	4043140731924	01	0.0	29.65	0	0	0	0	0	0	0	SN	606	
206 S 64222. 1		404346073200501	4043460732005	01	0.0	34.30	0	0	0	0	0	0	0	SN	571	
207 S 64223. 1	112GLCLU	404344073202201	4043440732022	01	0.0	0.00	0	0	0	0	0	0	0	SN	550	1
208 S 64224. 1		404343073202201	4043430732022	01	0.0	27.82	0	0	0	0	0	0	0	SN	550	
209 S 64225. 1		404339073202801	4043390732028	01	0.0	35.71	0	0	0	0	0	0	0	SN	541	
210 S 64226. 1		404340073202801	4043400732028	01	0.0	35.76	0	0	0	0	0	0	0	SN	541	
211 S 64227. 1		404337073204501	4043370732045	01	0.0	41.84	0	0	0	0	0	0	0	SN	531	
212 S 64228. 1		404400073193301	4044000731933	01	0.0	34.99	0	0	0	0	0	0	0	SN	610	
213 S 64229. 1		404402073194001	4044020731940	01	0.0	34.58	0	0	0	0	0	0	0	SM	609	
214 S 64230. 1		404401073195401	4044010731954	01	0.0	33.43	0	0	0	0	0	0	0	SM	599	
215 S 64231. 1		404401073195701	4044010731957	01	0.0	34.01	0	0	0	0	0	0	0	SM	589	
216 S 64304. 1		404433073203201	4044330732032	01	0.0	44.35	0	0	0	0	0	0	0	SM	564	
217 S 64305. 1		404431073204201	4044310732042	01	0.0	39.25	0	0	0	0	0	0	0	SM	554	
218 S 64306. 1		404431073204101	4044310732041	01	0.0	39.21	0	0	0	0	0	0	0	SM	554	
219 S 64307. 1		404427073204101	4044270732041	01	0.0	49.44	0	0	0	0	0	0	0	SM	554	
220 S 64308. 1		404427073204201	4044270732042	01	0.0	39.27	0	0	0	0	0	0	0	SM	554	
221 S 64309. 1		404429073204701	4044290732047	01	0.0	39.47	0	0	0	0	0	0	0	SM	554	
222 S 64310. 1		404513073175501	4045130731755	01	0.0	60.00	0	0	0	0	0	0	0	SM	733	
223 S 64311. 1		404517073181201	4045170731812	01	0.0	53.39	0	0	0	0	0	0	0	SM	712	
224 S 64312. 1		404537073174001	4045370731740	01	0.0	0.00	0	0	0	0	0	0	0	SM	751	
225 S 64313. 1	112GLCLU	404659073202001	4046590732020	01	89.4	89.20	30	25	30	0	7	143	0	SK	635	1
226 S 64314. 1	112GLCLU	404818073171601	4048180731716	01	100.1	99.94	60	55	60	0	7	169	0	SK	840	1
227 S 64504. 1		404549073140201	4045490731402	01	0.0	58.14	0	0	0	0	0	0	0	SM	976	
228 S 64526. 1		404449073144501	4044490731445	01	0.0	38.05	0	0	0	0	0	0	0	SN	902	
229 S 64527. 1		404442073144401	4044420731444	01	0.0	33.85	0	0	0	0	0	0	0	SN	903	
230 S 64528. 1		404442073144701	4044420731447	01	0.0	31.40	0	0	0	0	0	0	0	SN	903	
231 S 64535. 1		404230073175101	4042300731751	01	0.0	18.45	0	0	0	0	0	0	0	SO	675	
232 S 64536. 1		404254073174301	4042540731743	01	0.0	25.07	0	0	0	0	0	0	0	SO	692	
233 S 64537. 1		404304073174201	4043040731742	01	0.0	26.74	0	0	0	0	0	0	0	SO	691	
234 S 64538. 1		404307073173801	4043070731738	01	0.0	24.40	0	0	0	0	0	0	0	SO	700	
235 S 64539. 1		404307073174701	4043070731747	01	0.0	28.90	0	0	0	0	0	0	0	SO	690	
236 S 64540. 1		404421073174301	4044210731743	01	0.0	50.49	0	0	0	0	0	0	0	SN	720	
237 S 64541. 1		404425073175701	4044250731757	01	0.0	52.66	0	0	0	0	0	0	0	SN	710	
238 S 64542. 1		404425073181801	4044250731818	01	0.0	50.64	0	0	0	0	0	0	0	SM	699	
239 S 64543. 1		404513073175401	4045130731754	01	0.0	53.26	0	0	0	0	0	0	0	SM	733	
240 S 64544. 1		404511073174401	4045110731744	01	0.0	56.49	0	0	0	0	0	0	0	SM	744	
241 S 64545. 1		404517073174401	4045170731744	01	0.0	56.72	0	0	0	0	0	0	0	SM	743	
242 S 64546. 1		404335073184401	4043350731844	01	0.0	33.37	0	0	0	0	0	0	0	SN	645	
243 S 64547. 1		404328073185701	4043280731857	01	0.0	32.70	0	0	0	0	0	0	0	SN	635	
244 S 64548. 1		404250073185801	4042500731858	01	0.0	18.10	0	0	0	0	0	0	0	SO	610	
245 S 64562. 1		404531073210701	4045310732107	01	0.0	0.00	0	0	0	0	0	0	0	SL	555	
246 S 64563. 1		404538073211001	4045380732110	01	0.0	57.12	13	11	13	0	0	0	0	SL	554	1
247 S 64579. 1		404408073152801	4044080731528	01	0.0	35.01	0	0	0	0	0	0	0	SN	856	
248 S 64580. 1		404409073154501	4044090731545	01	0.0	43.63	0	0	0	0	0	0	0	SN	836	
249 S 65196. 1	211MGTY	404529073171901	4045290731719	01	69.0	0.00	124	0	0	0	8	189	0	SM	772	3
250 S 65199. 1		404529073171201	4045290731712	01	0.0	0.00	0	0	0	0	0	0	0	SM	783	

	WELL	AQUIFER	STATION ID	LAT-LONG	SQ	LSD	MP	DEPTH	--SCREEN-- TOP	BOTTOM	MAX DRILL	TOWN	COMM	SWDST	ZON	HGSTRM	WELUS
251	S 66137. 1	211MGTY	404618073212101	4046180732121	01	140.0	140.02	0	120	130	0	0	0	0	SK	563	1
252	S 66138. 1	211MGTY	404430073215601	4044300732156	01	60.0	63.14	150	119	129	0	4	167	0	SM	481	1
253	S 66139. 1	211MGTY	404332073212201	4043320732122	01	45.0	41.47	152	118	128	0	4	164	0	SN	490	1
254	S 66142. 1	211MGTY	404815073163201	4048150731632	01	150.0	0.00	203	172	182	0	11	169	0	SK	882	1
255	S 66143. 1	211MGTY	404541073180301	4045410731803	01	70.0	69.40	185	166	176	0	4	159	0	SL	739	1
256	S 66144. 1	211MGTY	404448073164101	4044480731641	01	55.0	59.31	143	126	136	0	8	189	0	SM	799	1
257	S 66145. 1	211MGTY	404435073171201	4044350731712	01	40.0	41.61	175	147	157	0	8	190	0	SN	760	1
258	S 66429. 1	211MGTY	404326073174103	4043260731741	03	0.0	29.88	718	0	718	0	8	209	0	SN	708	7
259	S 66576. 1		404335073164701	4043350731847	01	0.0	0.00	0	0	0	0	0	0	0	SN	644	
260	S 67538. 1	112GLCLU	404618073212102	4046180732121	02	0.0	0.00	0	0	0	0	0	0	0	SK	568	1
261	S 67539. 1		404430073215602	4044300732156	02	0.0	0.00	0	0	0	0	0	0	0	SM	481	
262	S 67540. 1		404332073212202	4043320732122	02	0.0	0.00	0	0	0	0	0	0	0	SN	490	
263	S 67544. 1	112GLCLU	404541073180302	4045410731803	02	0.0	0.00	0	0	0	0	0	0	0	SL	739	1
264	S 67546. 1		404435073171202	4044350731712	02	0.0	0.00	0	0	0	0	0	0	0	SN	760	
265	S 68334. 1	112GLCLU	404352073165101	4043520731651	01	41.0	0.00	15	0	0	0	0	0	0	SN	766	
266	S 71033. 1	211MGTY	404319073153701	4043190731537	01	29.7	0.00	592	0	592	0	0	0	0	SO	623	7
267	S 71083. 1	211MGTY	404528073150701	4045280731507	01	61.9	56.43	798	0	798	0	8	187	0	SM	907	7
268	S 72060. 1		404723073193701	4047230731937	01	0.0	0.00	0	0	0	0	0	0	0	SK	683	
269	S 72917. 1	211MGTY	404419073171602	4044190731716	02	47.0	0.00	460	0	0	0	8	204	0	SN	752	7
270	S 74489. 1	112GLCLU	404402073194002	4044020731940	02	0.0	0.00	0	0	0	0	0	0	0	SM	609	
271	S 74492. 1	112GLCLU	404497073193901	4044970731939	01	0.0	0.00	16	16	26	0	0	0	0	SM	622	
272	S 74493. 1	112GLCLU	404539073175701	4045390731757	01	0.0	0.00	35	25	35	0	4	159	0	SM	740	
273	S 74494. 1	112GLCLU	404441073182801	4044410731828	01	0.0	0.00	30	20	30	0	4	164	0	SM	686	
274	S 76016. 1T		404530073181101	4045300731811	01	70.0	0.00	857	0	0	0	0	0	0	SM	721	
275	S 76016. 2	211MGTY	404530073181102	4045300731811	02	63.5	63.17	762	752	757	0	0	0	0	SM	721	1
276	S 76017. 1	211MGTY	404530073181103	4045300731811	03	63.2	62.85	503	495	500	0	0	0	0	SM	721	1
277	S 76018. 1	211MGTY	404530073181104	4045300731811	04	63.0	62.76	194	186	191	0	0	0	0	SM	721	1
278	S 76019. 1	112GLCLU	404530073181105	4045300731811	05	63.0	62.86	62	57	62	0	0	0	0	SM	721	1
279	S 90097. 1	112GLCLU	404458073152901	4044580731529	01	0.0	0.00	0	0	0	0	0	0	0	SN	860	
280	S 90098. 1	112GLCLU	404458073152902	4044580731529	02	0.0	0.00	0	0	0	0	8	202	0	SN	860	1
281	S 90099. 1	112GLCLU	404452073153701	4044520731537	01	52.2	52.16	25	23	25	75	8	202	0	SN	850	1
282	S 90100. 1	112GLCLU	404450073153101	4044500731531	01	50.0	50.05	25	23	25	75	8	202	0	SN	861	1
283	S 90101. 1	112GLCLU	404450073152801	4044500731528	01	50.0	50.61	25	23	25	75	8	202	0	SN	861	1
284	S 90102. 1	112GLCLU	404444073152101	4044440731521	01	48.0	47.91	91	89	91	91	8	202	0	SN	872	1
285	S 90103. 1	112GLCLU	404444073152002	4044440731520	02	48.0	48.27	90	88	90	90	8	202	0	SN	872	1
286	S 90104. 1	112GLCLU	404444073152001	4044440731520	01	48.0	48.44	24	22	24	96	8	202	0	SN	872	1
287	S 90105. 1	112GLCLU	404444073151901	4044440731519	01	48.5	48.45	96	94	96	96	8	202	0	SN	872	1
288	S 90106. 1	112GLCLU	404444073151801	4044440731518	01	50.0	0.00	66	64	66	66	8	202	0	SN	872	1
289	S 90107. 1	112GLCLU	404433073151801	4044330731518	01	43.5	43.18	87	84	87	87	8	202	0	SN	873	1
290	S 90108. 1	112GLCLU	404433073151501	4044330731515	01	44.0	43.57	86	84	86	86	8	202	0	SN	874	1
291	S 90109. 1	112GLCLU	404434073151201	4044340731512	01	44.5	44.28	84	82	84	84	8	202	0	SN	874	1
292	S 90110. 1	112GLCLU	404434073150901	4044340731509	01	45.0	44.83	86	84	86	86	8	202	0	SN	874	1
293	S 91148. 1	112GLCLU	404435073150801	4044350731508	01	44.5	44.12	89	87	89	89	8	202	0	SN	884	1
294	S 91149. 1	112GLCLU	404432073151305	4044320731513	05	42.4	43.48	86	84	86	97	8	202	0	SN	874	1
295	S 91150. 1	112GLCLU	404430073151001	4044300731510	01	42.5	42.03	91	89	91	91	8	202	0	SN	874	1
296	S 91151. 1	112GLCLU	404429073150901	4044290731509	01	38.5	37.89	83	81	83	83	8	202	0	SN	874	1
297	S 91152. 1	112GLCLU	404425073145701	4044250731457	01	38.2	38.05	0	0	0	0	8	202	0	SN	885	1
298	S 91153. 1	112GLCLU	404422073145901	4044220731459	01	37.0	36.99	86	84	86	86	8	202	0	SN	885	1
299	S 91154. 1	112GLCLU	404422073145701	4044220731457	01	38.0	37.98	80	78	90	80	8	202	0	SN	886	1
300	S 91155. 1	211MGTY	404430073154603	4044300731548	03	0.0	0.00	133	131	133	0	8	202	0	SN	873	1

	WELL	AQUIFER	STATION ID	LAT-LONG	SQ	LSD	MP	DEPTH	--SCREEN-- TOP	BOTTOM	MAX DRILL	TOWN	COMM	SWDST	ZON	HGSTRM	WELUS
301	S 91156. 1	112GLCLU	404430073154602	4044300731548	02	0.0	0.00	12	7	12	12	8	202	0	SN	843	1
302	S 91157. 1	211MGTY	404417073143402	4044170731434	02	0.0	0.00	134	131	134	0	8	202	0	SN	907	1
303	S 91158. 1	211MGTY	404432073151306	4044320731513	06	42.8	44.44	153	145	150	0	8	202	0	SN	874	1
304	S 91159. 1	112GLCLU	404432073151307	4044320731513	07	43.1	44.51	318	310	315	0	8	202	0	SN	874	1
305	S 91160. 1	211MGTY	404436073150101	4044360731501	01	44.0	45.76	136	129	133	136	8	202	0	SN	884	1
306	S 91161. 1	112GLCLU	404436073150102	4044360731501	02	44.0	45.40	46	36	46	46	8	202	0	SN	884	1
307	S 91162. 1	211MGTY	404400073154403	4044000731544	03	0.0	0.00	0	0	0	0	8	202	0	SN	837	1
308	S 92392. 1	112GLCLU	404517073181401	4045170731814	01	0.0	0.00	0	0	0	0	0	0	0	SM	712	1
309	S 92393. 1	112GLCLU	404518073182401	4045180731824	01	0.0	0.00	0	0	0	0	0	0	0	SM	702	1
310	S 92394. 1	112GLCLU	404529073173701	4045290731737	01	0.0	0.00	0	0	0	0	0	0	0	SM	752	1
311	S 92395. 1	112GLCLU	404448073181001	4044480731810	01	0.0	0.00	0	0	0	0	0	0	0	SM	716	1

REFERENCE NO. 12

WESTON

PROJECT NOTE

TO: Commercial Envelope Mfg. Co. Inc. file

DATE: 23 June 1994

FROM: D. D. Minsavage

W.O. NO.: 04200-022-081-00016-

SUBJECT: Geology in the vicinity of the site

A survey of well logs for wells installed in Suffolk County was paired to those located within 1 mile of the site. A table of the information collected from these well logs is attached; Within 1 mile of the site the depth to the Magothy ranges from 104 to 138 feet below ground surface (bgs)

Within 0.5 mile of the site the depth to the Magothy ranges from 110 to 120 feet bgs.

Only one well log indicated the underlying Raritan Confining Unit was penetrated - this well, located approximately 0.2 mile from the site indicates the thickness of the Magothy in the vicinity of the site is 710 feet.

A 9-foot thick Gardeners Clay unit was encountered in 2 of the 11 wells investigated; the Gardiners Clay overlies the Magothy formation, but is not continuous throughout the region. [See Attachment A]

The well logs were culled from "Hydrogeologic Correlations for Selected Wells on Long Island, New York" U.S. G.S. Water-Resource Investigations Report 86-4318. [See Attachment B]

Additional attachments document general geology of the area and the general groundwater flow patterns in the glacial and Magothy aquifers [See Attachments C and D]

GEOLOGY ENCOUNTERED IN WELLS INSTALLED WITHIN 1 MILE
OF THE COMMERCIAL ENVELOPE MFG. CO., INC. SITE

Well ID No.	Distance (miles)	Latitude	Longitude	Altitude of well (sea level) top	Altitude of well (sea level) bottom	Well depth (ft)	Depth hydrogelogic unit penetrated/unit surface: Gardiners Clay	Depth hydrogelogic unit penetrated/unit surface: Magothy	Depth hydrogelogic unit penetrated/unit surface: Raritan Confining Unit	Depth to Magothy (ft)	Magothy Thickness (ft)
S-4266	1.0	404630	731800	80	-45	125				NA	NA
S-12873	0.4	404558	731825	82	-306	388		-38		120	>268
S-23045	0.7	404502	731822	60	-545	605		-44		104	>501
S-23046	0.8	404457	731824	60	-45	105				NA	NA
S-25617	0.8	404458	731823	64	-377	441				NA	NA
S-35669	0.6	404604	731751	70	-48	118		-38		108	>10
S-40497	0.7	404606	731746	74	-210	284		-64		138	>146
S-46830	0.7	404606	731746	76	-579	655		-60		136	>519
S-65196	0.8	404529	731719	69	-55	124	-39	-48		117	>7
S-66143	0.3	404540	731754	70	-115	185	-36	-45		115	>70
S-76016	0.2	404540	731811	65	-792	857		-45	-755	110	710

ATTACHMENT A

ATTACHMENT B

HYDROGEOLOGIC CORRELATIONS FOR SELECTED WELLS ON LONG ISLAND, NEW YORK--

A data base with retrieval program

by H. T. Buxton, D. A. Smolensky, and P. K. Shernoff

U.S. GEOLOGICAL SURVEY

Water-Resources Investigations
Report 86-4318

Prepared in cooperation with the

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS
SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
SUFFOLK COUNTY WATER AUTHORITY
NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION

Syosset, New York

1989

DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, JR., Secretary

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, Director

For additional information
write to:

U.S. Geological Survey
5 Aerial Way
Syosset, New York 11791
(516) 938-8830

Copies of this report may be
purchased from:

U.S. Geological Survey
Books and Open-File Reports
Federal Center Bldg. 41
Box 25425
Denver, CO 80225
(303) 236-7476

HYDROGEOLOGIC CORRELATIONS FOR SELECTED WELLS ON LONG ISLAND, NEW YORK--

A data base with retrieval program

By H. T. Buxton, D. A. Smolensky, and P. K. Shernoff

ABSTRACT

Accurate delineation of Long Island's internal hydrogeologic structure is integral to the understanding and management of the ground-water system. The irregular extent and surface configuration of Long Island's seven major hydrogeologic units give the ground-water system a complex internal structure. This report presents a computerized data base of hydrogeologic correlations for 3,146 wells on Long Island and adjacent parts of New York City. The data base includes the well-identification number, the latitude and longitude of the well location, the altitude of land surface at the well, the altitude of the bottom of the drilled hole, and the altitude of the upper surface of the major hydrogeologic units penetrated by the well. A computer program is included that allows retrievals of selected types of data for all or any local area of Long Island. These data retrievals are a valuable aid to the construction of hydrogeologic-surface maps.

INTRODUCTION

Long Island extends approximately 120 mi eastward from the East River and New York Harbor to Montauk Point (fig. 1). It contains the densely populated boroughs of New York City (Kings and Queens Counties) in the west, suburban Nassau and western Suffolk Counties in the central part, and areas of farmlands and pine barrens in the east.

Ground water is the sole source of freshwater supply for the 2.6 million inhabitants of Nassau and Suffolk Counties. About 500 Mgal/d was pumped from the Island's ground-water reservoir in 1981 for public supply, commercial, and agricultural needs. This demand is expected to increase in coming years, which will make proper resource management imperative.

Long Island's geologic history has consisted of alternating periods of erosion and deposition. The result is a sequence of aquifers and confining units of irregular extent and surface configuration that give the ground-water system a complex internal structure. This irregular internal geometry has a large influence on the patterns and rates of ground-water flow. Ground-water flow is retarded where the aquifers are separated by a confining unit but is unimpeded where the intervening confining unit has been eroded or where cut-and-fill deposition makes two aquifers laterally contiguous.

Knowledge of the internal hydrogeologic structure is necessary for efficient resource management, which includes (1) designing future water-development plans; (2) selecting sites for waste disposal; (3) locating and tracking the movement of contaminants within the ground-water system; and (4) mitigating other undesirable effects of man's influence on the system, such as streamflow depletion and saltwater intrusion.

Purpose and Scope

This report presents a computerized data base of hydrogeologic-unit correlations for 3,146 wells on Long Island and adjacent parts of New York City. The data base (at end of report) gives the altitude at which the upper surface of each of seven major hydrogeologic units was penetrated and also includes the location, land-surface altitude, and depth of each well.

The following sections discuss the hydrogeologic units and the well data used to correlate surface altitudes for each unit; they also describe the format of the data base and explain each element. Also included is a description of a simple system of data retrieval that facilitates construction of hydrogeologic maps with a computer program.

A report by Smolensky and others (in press) presents a set of maps showing the configuration of the upper surface of these hydrogeologic units. The correlations presented herein were developed during construction of those maps and are consistent with their representation of the system geometry. The data-retrieval methods described in this report were used during map construction.

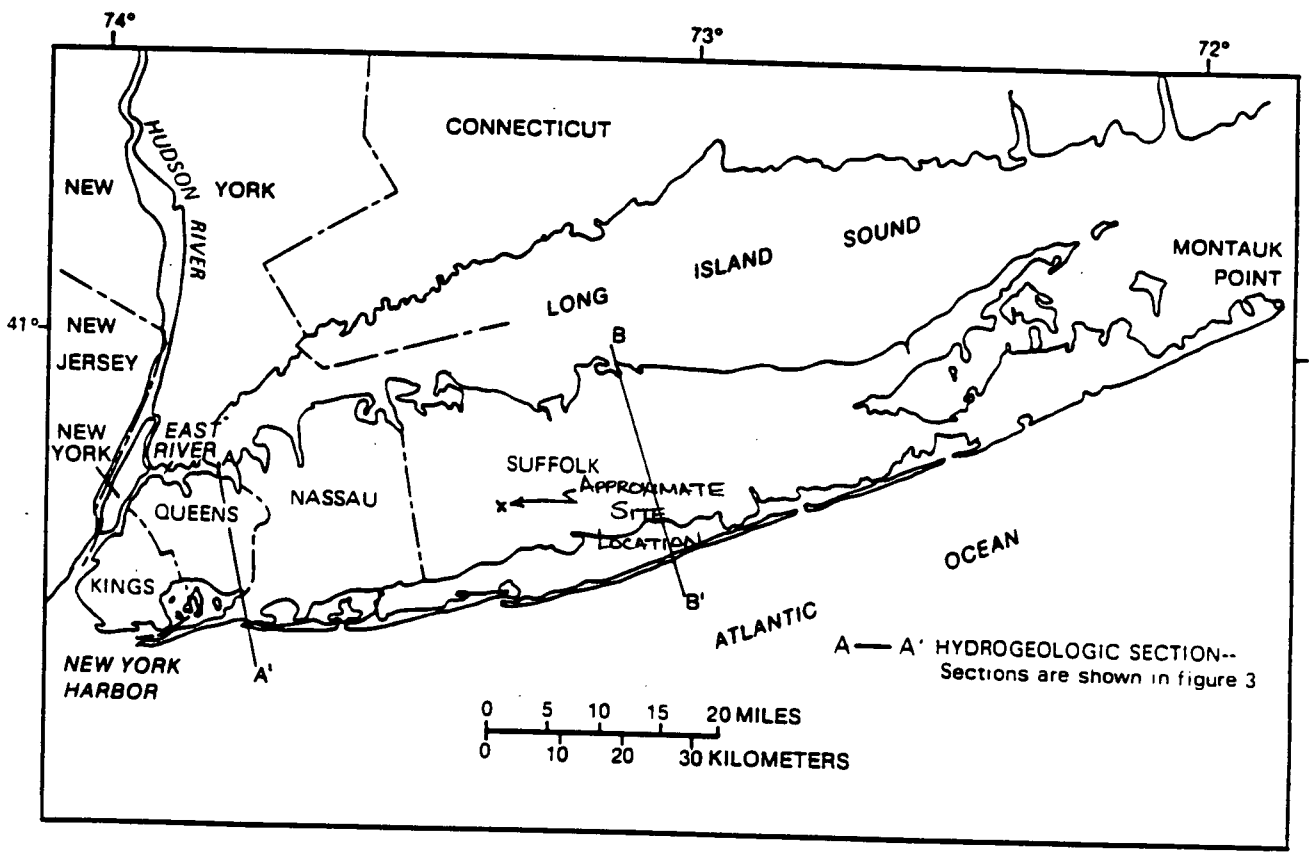


Figure 1.--Location of Long Island, N.Y., and of hydrogeologic sections depicted in figure 9.

Previous Investigations

Some previous hydrogeologic investigations that were completed on a local scale were used as a starting point for this study. Krulikas (1981) and Jensen and Soren (1971) evaluated the hydrogeology of Suffolk County, Kilburn (1980) and Kilburn and Krulikas (1986) evaluated the hydrogeology of parts of Nassau County, and Buxton and others (1981) evaluated the hydrogeology of Kings and Queens Counties.

Acknowledgments

The authors greatly appreciate support provided by the New York State Department of Environmental Conservation, Nassau County Department of Public Works, Suffolk County Department of Health Services, Suffolk County Water Authority, and New York City Department of Environmental Protection.

HYDROGEOLOGIC FRAMEWORK

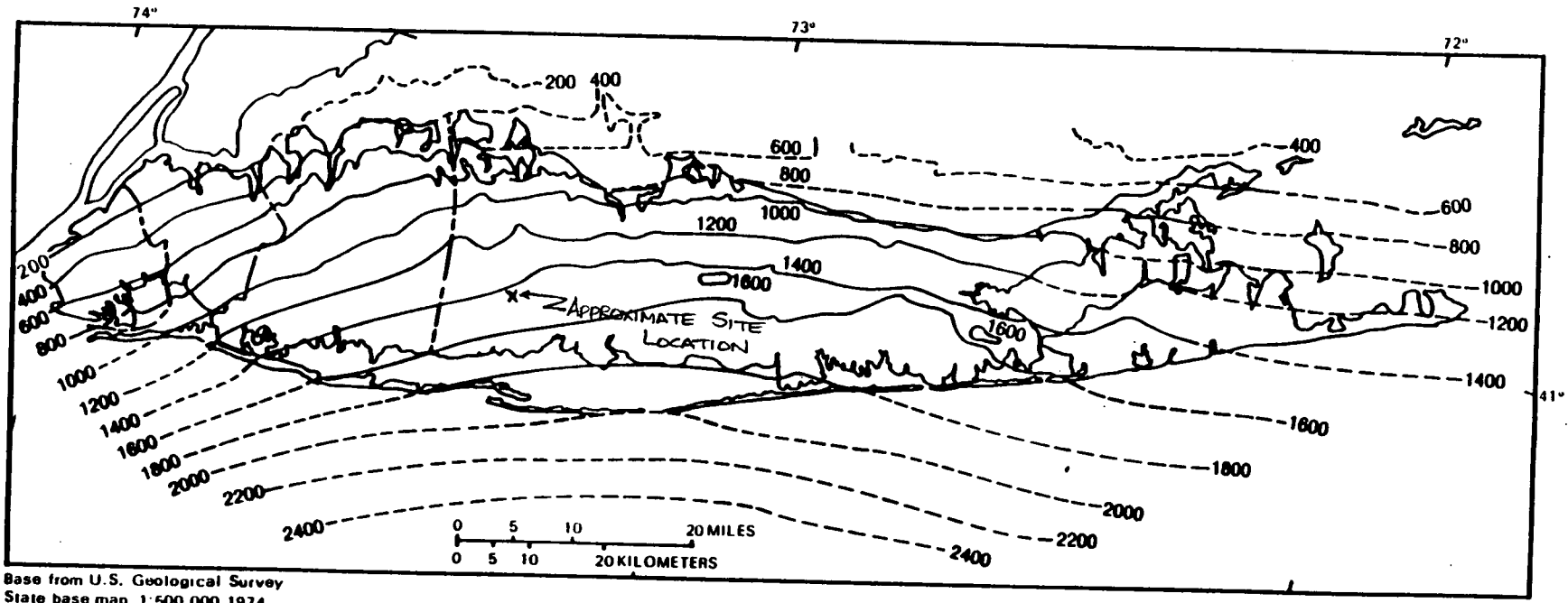
Long Island is underlain by unconsolidated deposits of clay, silt, sand, and gravel that overlie southward-dipping consolidated bedrock (fig. 2). The unconsolidated deposits are thinnest in northern Queens County (northwestern Long Island) and thicken to the south and east to a maximum thickness of 2,000 ft at the south shore. These deposits contain several distinct geologic units ranging in age from Late Cretaceous through Pleistocene, with some recent deposits near shores and along streams. These units are differentiated by age, method of deposition, and lithology in table 1.

In studies of ground-water availability and flow patterns, correlations that are based strictly on geologic factors may not adequately describe the internal structure of the hydrologic system; generally an interpretation in which the units are differentiated on the basis of water-transmitting properties is more useful. Thus, table 1 gives both the geologic units and the corresponding hydrogeologic units and shows their stratigraphic relationships. Eight major hydrogeologic units are indicated; these are, in order of deposition, consolidated bedrock, the Lloyd aquifer, the Raritan confining unit, the Magothy aquifer, the Monmouth greensand, the Jameco aquifer, the Gardiners Clay, and the upper glacial aquifer. The two hydrogeologic vertical sections shown in figure 3 depict the relative position of these units in western and eastern Long Island, respectively. The Jameco aquifer is present only in western Long Island (fig. 3A), and the Monmouth greensand is present only in eastern Long Island (fig. 3B). A map showing the extent and configuration of all units below the upper glacial aquifer is given in Smolensky and others (in press). Other local hydrogeologic units have been identified within the upper glacial deposits but are not discussed herein.

Table 1.--Hydrogeologic units of Long Island and their water-bearing properties.

System	Series	Geologic unit	Hydrogeologic unit	Approximate maximum thickness (ft)	Character of deposits	Water-bearing properties
Quaternary	Holocene	Recent deposits: Salt marsh deposits, stream alluvium, shoreline deposits, and fill.	Recent deposits	50	Sand, gravel, clay, silt, organic mud, peat, loam, and shells. Colors are gray, brown, green, black, and yellow.	Beach deposits are highly permeable; marsh deposits poorly permeable. Locally hydraulically connected to underlying aquifers.
	Pleistocene	Upper Pleistocene deposits	Upper glacial aquifer	700	Till composed of clay, sand, gravel, and boulders, forms Harbor Hill and Ronkonkoma terminal moraines. Outwash deposits consist of quartzose sand, fine to very coarse, and gravel, pebble to boulder sized. Also contains lacustrine, marine, and reworked deposits. Local units are Port Washington aquifer and confining unit, "20-foot clay," and clay at Smithtown.	Till is poorly permeable. Outwash deposits are moderately to highly permeable. Glaciolacustrine and marine clay deposits are mostly poorly permeable but locally have thin, moderately permeable layers of sand and gravel. Average horizontal hydraulic conductivity is approximately 270 ft/d; conductivity of morainal material is approximately 50 percent of outwash deposits; anisotropy is approximately 10:1.
		unconformity?				
		Gardiners Clay	Gardiners Clay	150	Clay, silt, and few layers of sand. Colors are grayish green and brown. Contains marine shells and glauconite.	Poorly permeable; constitutes a confining layer for underlying aquifer. Some sand lenses may be permeable. Average vertical hydraulic conductivity is approximately 0.001 ft/d.
		unconformity?				
		Jameco Gravel	Jameco aquifer	200	Sand, fine to very coarse, and gravel to large-pebble size; few layers of clay and silt. Gravel is composed of crystalline and sedimentary rocks. Color is mostly brown.	Moderately to highly permeable. Confined by overlying Gardiners Clay. Average horizontal hydraulic conductivity is 200 to 300 ft/d; anisotropy is approximately 10:1.
		unconformity				

Cretaceous	Upper Cretaceous	unconformity Monmouth Group		Monmouth Greensand	200	Interbedded marine deposits of clay, silt, and sand, dark-greenish gray, greenish-black, greenish, dark-gray, and black, containing much glauconite.	Poorly permeable; primarily a confining unit for underlying Magothy aquifer. Average vertical hydraulic conductivity is approximately 0.001 ft/d.
		unconformity Matawan Group-Magothy Formation, undifferentiated		Magothy aquifer	1,100	Sand, fine to medium, clayey in part; interbedded with lenses and layers of coarse sand and sandy and solid clay. Gravel is common in basal zone. Sand and gravel are quartzose. Lignite, pyrite, and iron oxide concretions are common. Colors are gray, white, red, brown, and yellow.	Most layers are poorly to moderately permeable; some are highly permeable locally. Water is unconfined in uppermost parts, elsewhere is confined. Constitutes principal aquifer for public supply. Average horizontal hydraulic conductivity is 50 ft/d; anisotropy is approximately 100:1.
		unconformity Raritan Formation	Unnamed clay member	Raritan confining unit	200	Clay, solid and silty; few lenses and layers of sand. Lignite and pyrite are common. Colors are gray, red, and white, commonly variegated.	Poorly to very poorly permeable; constitutes confining layer for underlying Lloyd aquifer. Average vertical hydraulic conductivity is approximately 0.001 ft/d.
			Lloyd Sand Member	Lloyd aquifer	500	Sand, fine to coarse, and gravel, commonly with clayey matrix; some lenses and layers of solid and silty clay; locally contains thin lignite layers. Sand and most of gravel are quartzose. Colors are yellow, gray, and white; clay is red locally.	Poorly to moderately permeable. Water is confined by overlying Raritan clay. Average horizontal hydraulic conductivity is 40 ft/d; anisotropy is approximately 10:1.
Precambrian and Paleozoic	- - -	unconformity Bedrock		Bedrock	- -	Crystalline metamorphic and igneous rocks; muscovite-biotite schist, gneiss, and granite. A soft, clayey zone of weathered bedrock locally is more than 70 ft thick.	Poorly permeable to virtually impermeable; constitutes lower boundary of ground-water reservoir. Some hard fresh water is contained in joints and fractures but is impractical to develop at most places.



Base from U.S. Geological Survey
State base map, 1:500,000, 1974

EXPLANATION

1800 ——— — — LINE OF EQUAL THICKNESS OF UNCONSOLIDATED DEPOSITS--
Dashed where approximately located. Contour interval 200 feet

Figure 2.--Thickness of unconsolidated deposits on Long Island.

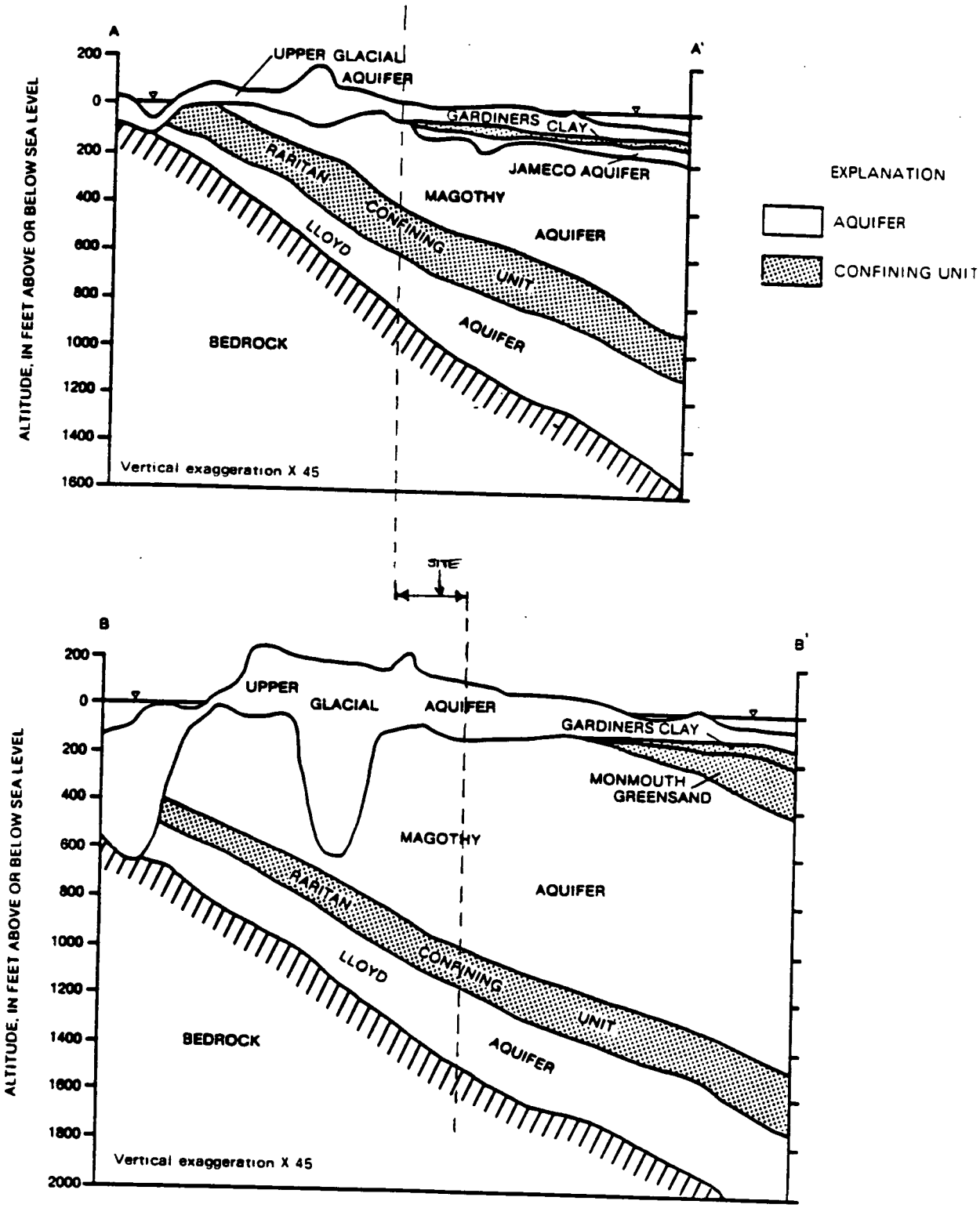


Figure 9.--Generalized vertical sections showing major hydrogeologic units: A. On western Long Island. B. On eastern Long Island. (Locations are shown in fig. 1.)

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ATTACHMENT C

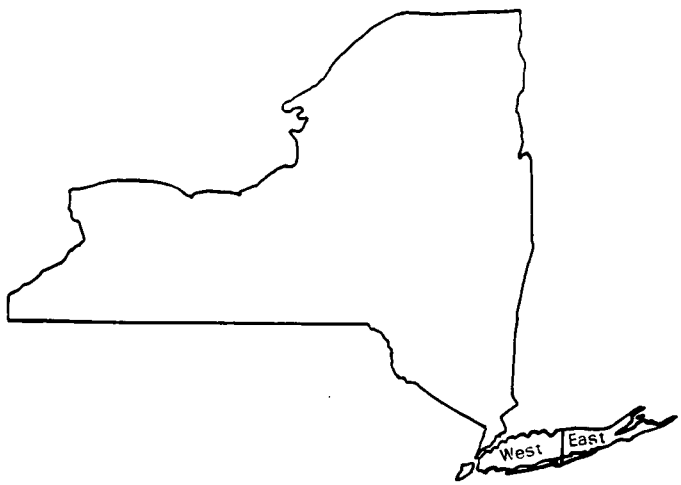
UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

POTENTIOMETRIC-SURFACE ALTITUDE OF MAJOR AQUIFERS ON LONG ISLAND, NEW YORK, IN 1983

By

Thomas P. Doriski



WATER-RESOURCES INVESTIGATIONS REPORT 85-4321

Plate 1. Water-table altitude

Plate 2. Water-table well numbers

Plate 3. Potentiometric surface of Magothy aquifer

Plate 4. Potentiometric surface of Lloyd aquifer

Prepared in cooperation with the

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES

SUFFOLK COUNTY WATER AUTHORITY

Syosset, New York

1986

WATER-TABLE ALTITUDE ON LONG ISLAND, NEW YORK, IN MARCH 1983

The general configuration of the water table on Long Island is an east-west-trending mound along the center of Long Island with an isolated high in central Nassau County and another in central Suffolk County. This map depicts the static water levels in March 1983 in wells tapping the water table.

The New York State Department of Environmental Conservation well numbers are shown on plate 2. These wells are screened in the upper glacial aquifer except where the entire thickness of the aquifer is unsaturated and the water table is in the upper part of the Magothy aquifer.

The water-table altitudes range from 9.4 ft below sea level in central Queens County to 111.5 ft above sea level in northwestern Nassau County. The water table is, in general, 1 to 7 ft lower than in 1979 (Donaldson and Koszalka, 1983). Also indicated are the approximate water-surface altitudes of south-shore streams that have been surveyed; the water levels in these gaining streams indicate the water-table altitude adjacent to the stream.

The water table is high in several areas on Long Island, because the geologic units have low hydraulic conductivity. These areas are the north-central part of the south fork in eastern Suffolk County (sheet 2), the Flanders area in eastern Suffolk County along Riverhead-Hampton Bays Road (Rt. 24 on sheet 2), several areas near the Northern State Parkway in western Suffolk County (sheet 1), northern Nassau County, particularly Manhasset Neck north of Northern State Parkway (sheet 1), and the Park Slope section of Brooklyn, south of Flatbush Avenue (sheet 1). The water table tends to be slightly elevated where the clay at Smithtown is present--particularly the Lake Ronkonkoma area (sheet 1), which is underlain by the clay and has a higher hydraulic head than the area south of Lake Ronkonkoma, where the clay is absent. The extent of the clay at Smithtown is depicted in Krulikas and Koszalka (1983).

Most wells on plate 1 were measured in March 1983. In comparing the water levels in the water-table aquifer to water levels in the Magothy aquifer (pl. 3), also measured in March, the user should verify whether the wells in each aquifer were measured at approximately the same time of the month to account for differences due to precipitation. Information on the date and time of water-level measurements is available at the U.S. Geological Survey in Syosset, N.Y.

This study was done in cooperation with the Nassau County Department of Public Works, Suffolk County Department of Health Services, Suffolk County Water Authority, and the New York State Department of Environmental Conservation.

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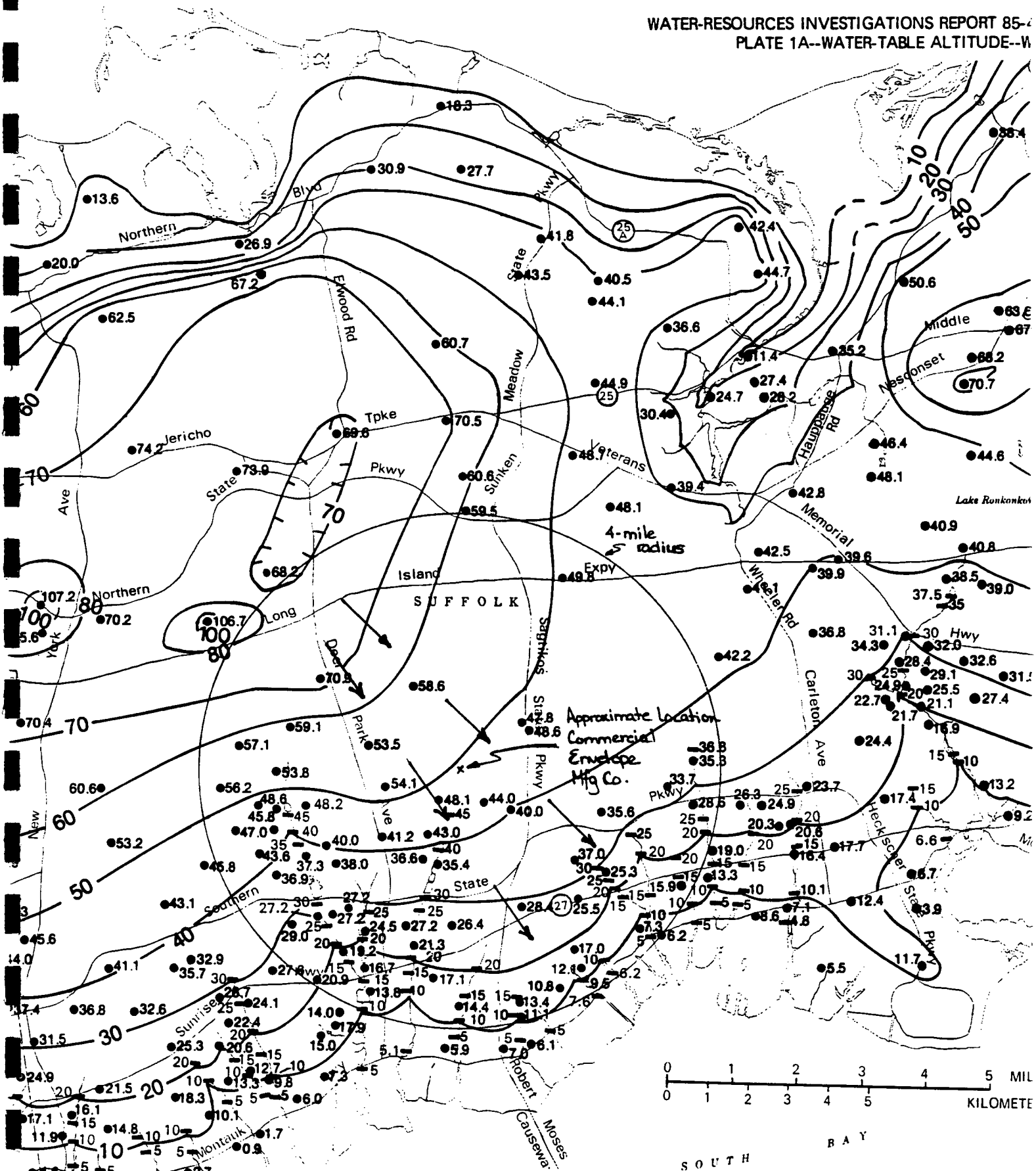
Donaldson, C. D., and Koszalka, E. J., 1983, Water table on Long Island, New York, March 1979: U.S. Geological Survey Open-File Report 82-163, 2 sheets.

Krulikas, R. K., and Koszalka, E. J., 1983, Geologic reconnaissance of an extensive clay unit in north-central Suffolk County, Long Island, New York: U.S. Geological Survey Water-Resources Investigations Report 82-4075, 9 p.

WATER-TABLE ON LONG ISLAND, NEW YORK, MARCH 198

WATER-RESOURCES INVESTIGATIONS REPORT 85-
PLATE 1A--WATER-TABLE ALTITUDE--W



SURFACE-WATER ALTITUDE--Altitude of water surface in stream or river, in feet abo NGVD of 1929

4.0 OBSERVATION WELL AND WATER-SURFACE ALTITUDE--Altitude of water level, in fee above or below (-) NGVD of 1929. (Well numbers shown in plate 2)

---10--- LINE OF EQUAL WATER-TABLE ALTITUDE--Solid where approximately known; dashed where inferred. Contour interval 10 and 20 feet. Hachures indicate depression

REFERENCES CITED

Buxton, H. T., Soren, Julian, Posner, Alex, and Shernoff, P. K., 1981, Reconnaissance of the ground-water resources of Kings and Queens Counties, New York: U.S. Geological Survey Open-File Report 81-1186, 59 p.

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Nemickas, Bronius, and Koszalka, E. J., 1982, Geohydrologic appraisal of water resources of the South Fork, Long Island, New York: U.S. Geological Survey Water-Supply 2073, 55 p.

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POTENTIOMETRIC SURFACE OF THE MAGOTHY AQUIFER, LONG ISLAND, NEW YORK, IN MARCH 1983

The Magothy aquifer of the Cretaceous Magothy Formation and overlying Matawan Group undifferentiated supplies water for public supply and industrial use in Nassau and Suffolk Counties. The potentiometric-surface altitude is monitored by the U.S. Geological Survey. This map depicts the static water-level measurements taken in March 1983 in observation wells and public-supply wells screened in the Magothy aquifer.

The measurements show the potentiometric-surface altitude to range from 9.8 ft below sea level in eastern Queens County to 83.5 ft above sea level in central Nassau County (sheet 1). The general shape of the potentiometric surface is similar to that of the overlying upper glacial (water-table) aquifer, rising gradually from a depression in the western part of the island to an east-west mound in the central part. In areas where deep channels have been eroded into the Magothy aquifer and filled with glacial deposits, the potentiometric-surface contours were drawn from water levels measured in wells screened deep in these glacial deposits, which are laterally contiguous and hydraulically connected with the Magothy aquifer.

The potentiometric-surface altitude is, in general, 1 to 7 ft lower than in 1979 (Donaldson and Koszalka, 1983), except in central Queens County, where water levels in the depression area have recovered from 28 ft below sea level in 1979 to 10 ft below sea level.

On the north and south forks of eastern Suffolk County (sheet 2), water in the Magothy aquifer is saline except in the central part of the south fork (Nemickas and Koszalka, 1982). The northern limit of the Magothy aquifer in Kings and Queens Counties as depicted here has been revised in accordance with data of Buxton and others (1981); its northern limit in Nassau County has been revised according to Kilburn (1979) and Kilburn and Krulikas (1985).

Most wells shown on this map were measured in March 1983. In comparing the water levels in the Magothy aquifer with the water table (plate 1), also measured in March 1983, the user should verify that the wells in each aquifer were measured at approximately the same time of the month to account for differences due to precipitation. Information on the date and time of water-level measurements is available at the U.S. Geological Survey in Syosset, N.Y.

This work was done in cooperation with the Nassau County Department of Public Works, Suffolk County Department of Health Services, Suffolk County Water Authority, and the New York State Department of Environmental Conservation. Special thanks are extended to the water companies and private industries on Long Island who cooperated in the static water-level measurements.

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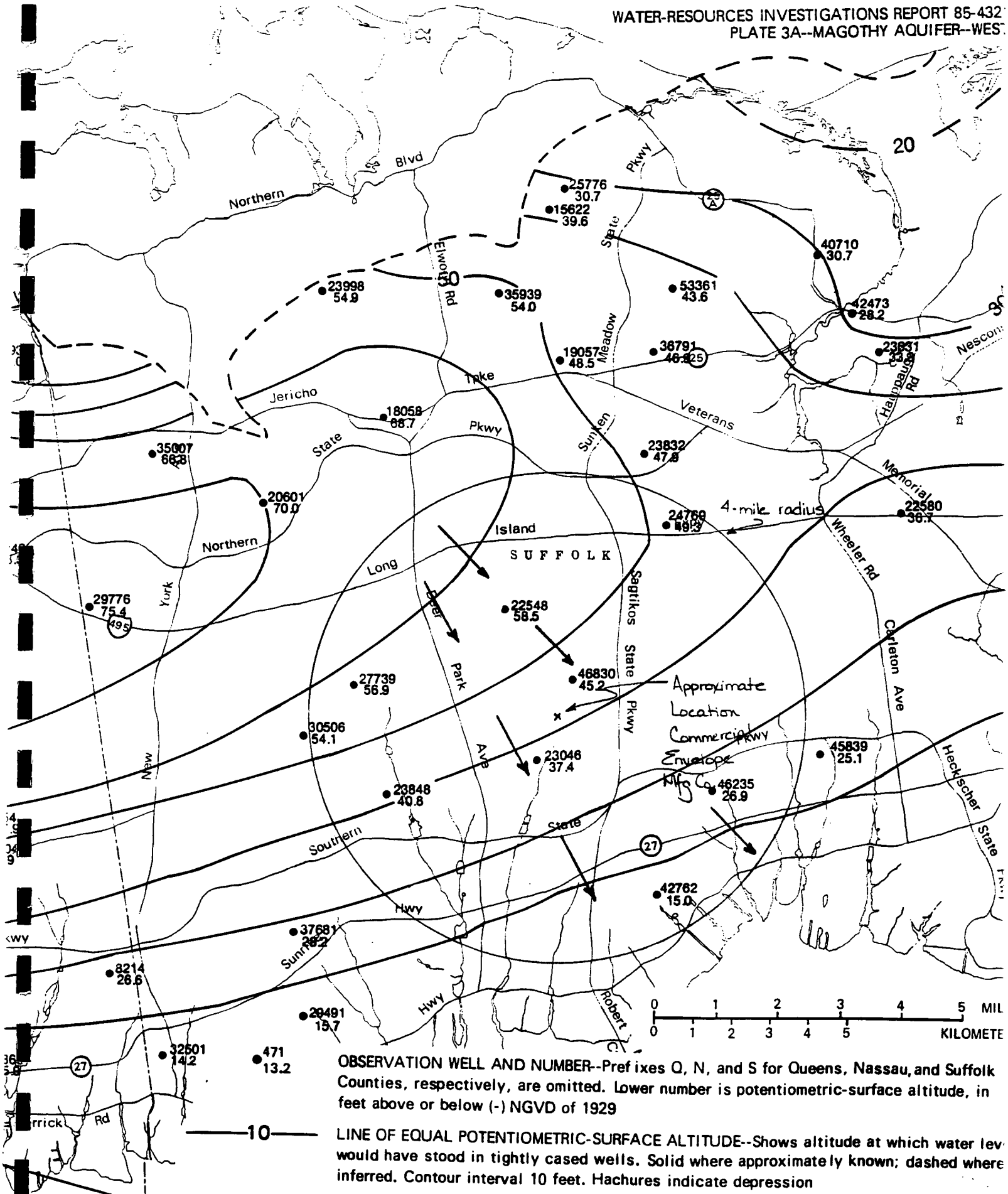
POTENTIOMETRIC SURFACE OF THE MAGOTHY AQUIFER, LONG ISLAND, NEW YORK, MARCH 1983

WATER-RESOURCES INVESTIGATIONS REPORT 85-432
PLATE 3A--MAGOTHY AQUIFER--WEST



OBSERVATION WELL AND NUMBER--Prefixes Q, N, and S for Queens, Nassau, and Suffolk Counties, respectively, are omitted. Lower number is potentiometric-surface altitude, in feet above or below (-) NGVD of 1929

—10— LINE OF EQUAL POTENTIOMETRIC-SURFACE ALTITUDE--Shows altitude at which water lev would have stood in tightly cased wells. Solid where approximately known; dashed where inferred. Contour interval 10 feet. Hachures indicate depression

Loan Copy Only

ATTACHMENT D

DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

HYDROLOGIC FRAMEWORK OF LONG ISLAND, NEW YORK

By D.A. Smolensky, H.T. Buxton, and P.K. Shernoff

Prepared in cooperation with the
NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION,
NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS,
SUFFOLK COUNTY WATER AUTHORITY and DEPARTMENT OF HEALTH SERVICES

HYDROLOGIC INVESTIGATIONS ATLAS
Published by the Geological Survey, 1989

SMOLENSKY AND OTHERS—HYDROGEOLOGIC FRAMEWORK OF LONG ISLAND, NEW YORK 1:250,000 ATLAS HA-709

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DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

HYDROLOGIC FRAMEWORK OF LONG ISLAND, NEW YORK

By D.A. Smolensky, H.T. Buxton, and P.K. Shernoff

Prepared in cooperation with the
NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION,
NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS,
SUFFOLK COUNTY WATER AUTHORITY and DEPARTMENT OF HEALTH SERVICES

HYDROLOGIC INVESTIGATIONS ATLAS
Published by the Geological Survey, 1989

SMOLENSKY AND OTHERS—HYDROGEOLOGIC FRAMEWORK OF LONG ISLAND, NEW YORK 1:250,000 ATLAS HA-709

DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

INTRODUCTION

Long Island, N.Y., is underlain by a mass of unconsolidated geologic deposits of clay, silt, sand, and gravel that overlie southward-sloping consolidated bedrock. These deposits are thinnest in northern Queens County (northwestern Long Island), where bedrock crops out, and increase to a maximum thickness of 2,000 ft in southeastern Long Island. This sequence of unconsolidated deposits consists of several distinct geologic units ranging in age from late Cretaceous through Pleistocene, with some recent deposits near shores and streams. These units are differentiated by age, depositional environment, and lithology in table 1.

Investigations of ground-water availability and flow patterns may require information on the internal geometry of the hydrologic system that geologic correlations and interpretation alone cannot provide; hydrologic interpretations in which deposits are differentiated on the basis of water-transmitting properties are generally needed also. This set of maps and vertical sections depicts the hydrogeologic framework of the unconsolidated deposits that form Long Island's ground-water system. These deposits can be classified into eight major hydrogeologic units (table 1). The hydrogeologic interpretations presented herein are not everywhere consistent with strict geologic interpretation owing to facies changes and local variations in the water-transmitting properties within geologic units.

These maps depict the upper-surface altitude of seven of the eight hydrogeologic units, which, in ascending order, are: consolidated bedrock, Lloyd aquifer, Raritan confining unit, Magothy aquifer, Monmouth greensand, Jameco aquifer, and Gardiners Clay. The upper glacial aquifer—the uppermost unit—is at land surface over most of Long Island and is, therefore, not included. The nine north-south hydrogeologic sections shown below depict the entire sequence of unconsolidated deposits and, together with the maps, provide a detailed three- dimensional interpretation of Long Island's hydrogeologic framework.

The structure-contour map that shows the upper-surface altitude of the Cretaceous deposits is included to illustrate the erosional unconformity between the Cretaceous and overlying Pleistocene deposits. Pleistocene erosion played a major role in determining the shape and extent of the Lloyd aquifer, the Raritan confining unit, and the Magothy aquifer, and thus partly determined their hydrogeologic relation with subsequent (post-Cretaceous) deposits.

PREVIOUS HYDROGEOLOGIC INVESTIGATIONS

The first attempt to map the complete sequence of geologic units on an islandwide scale was made by Suter and others (1949) despite a paucity of data. The most recent report to interpret the hydrogeology of Long Island on an islandwide scale was by McClymonds and Franke (1972) which gives the estimated thickness of the Lloyd, Magothy, Jameco, and upper glacial aquifers. Recent investigations have provided more detailed information in several local areas.

The hydrogeologic framework of Kings and Queens Counties has been evaluted by Buxton and Shernoff (U.S. Geological Survey, written comm., 1985), and the northern part of Nassau County has been studied by Kilburn (1980) and Kilburn and Krulikas (1986). The Roosevelt and Mitchell Field area in Nassau County has been studied by Eckhardt (in press), and the upper surface altitude of the Matawan Group and Magothy Formation and shallower geologic units of southern Nassau and Suffolk Counties have been mapped by Doriski and Wilde-Katz (1982).

Jensen and Soren (1974) mapped the complete sequence of aquifers and confining units in Suffolk county. Local hydrogeologic studies in Suffolk County include the Montauk Point area (Prince, 1986); the south fork (Nemickas and Koszalka, 1982); the northern part of the Town of Brookhaven (Koszalka, 1980); and the surface of the Matawan Group and Magothy Formation in Suffolk County (Krulikas, Koszalka, and Doriski, 1983). All of these reports define either geologic or hydrogeologic units, which may create some discrepancies upon comparision owing to the

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The hydrogeologic units on Long Island can be correlated with those of northeastern New Jersey, which have been investigated by Gill and Farlekas (1976), Minard (1969), Zapecza (1984). Although southern Connecticut parallels the north shore of Long Island (fig.1), it lacks the hydrogeologic units of Long Island because they pinch out beneath the Long Island Sound.

SOURCES OF DATA

Two major sources of hydrogeologic data were used to construct the maps—records of wells and offshore seismic surveys.

Well Data

The well data used in this investigation include drillers' logs, geophysical logs, and geologists' descriptions of cores and other drilling samples. Hydrogeologic data from more than 3,100 wells on Long Island are available. Hydrogeologic interpretations of all wells used in this study, including the altitude of the upper surface of each unit penetrated, are given in a report by Buxton, Smolensky, and Shernoff (in press). Hydrogeologic data on these wells are on file at the U.S. Geological Survey office in Syosset, N.Y.

Offshore Seismic Surveys

Several seismic surveys conducted in recent years have produced a means of mapping offshore structures. Primarily through reflection techniques, the configuration of the bedrock and Cretaceous surfaces under the water surrounding Long Island have been defined. Grim and others (1970) and the U.S. Geological Survey (1970) contoured the eroded surface of the Cretaceous deposits and bedrock beneath Long Island Sound. Williams (1976) investigated the shallow bottom structure off Long Island with emphasis around the north and south forks. McMaster and Ashraf (1973) discuss paleo-drainage in New England and Long Island and resultant buried valleys. Hutchinson (written commun., 1984) has interpreted data from recent cruises on the Long Island Sound and on the inner continental shelf directly south of Long Island.

In this study, knowledge gained from offshore seismic survey was used to correlate onshore and offshore data and to project the extent of the hydrogeologic units offshore. The eroded surface of Cretaceous deposits or consolidated bedrock beneath Long Island Sound (U.S. Geological Survey, 1970) was correlated with the surface of the Upper Cretaceous unit onshore. The dip of the relatively flat underlying Cretaceous units was assumed to persist offshore; thus the onshore surfaces were extended northward to their contact with the Cretaceous or bedrock surface. The bedrock surface was similarly extended northward to the point at which the effects of post-Cretaceous erosion could be observed. The extent of each Cretaceous unit is defined by the point of post-Cretaceous erosion on the next underlying unit. The logic of this analysis is consistent with the concepts of the sedimentation model described in the following section.

EROSIONAL AND DEPOSITIONAL HISTORY

The unconsolidated deposits that comprise the hydrogeologic framework of Long Island reflect the island's erosional and depositional history.

Present-day depositional environments show the close relation between environment of deposition and type and rate of sediments deposited. These relations can be applied to the present sequence of sediments and their structure and characteristics to identify and correlate recurring intervals of deposition, nondeposition, and (or) erosion in the paleo-environments.

This study used a theoretical sedimentation model to help define the structure and configuration of the individual hydrogeologic units. The model was used to help conceptualize the type, location, and thickness of sediments on the basis of a sequence of changing physical environments through geologic time.

The following paragraphs briefly summarize the paleo-environments in Long Island's geologic past and their correlation with the present hydrogeologic units on Long Island.

Consolidated bedrock on Long Island (sheet 2) is of Precambrian and/or Paleozoic age, and its surface configuration is defined as a peneplain (Suter and others, 1949). Because Paleozoic and lower Mesozoic deposits are absent above bedrock, the period when erosion on the bedrock surface occurred cannot be dated.

The overlying Cretaceous age sediments can be characterized by three periods of deposition, each separated by an interval of nondeposition and (or) erosion. The lowermost Cretaceous sediments on Long Island, which form the Raritan Formation, were probably deposited in an environment dominated by streams and coalescing deltas (Buxton and others, 1981). These deposits exhibit a distinct fining upward that may be a result of changing stream gradients and (or) a prograding shoreline. The formation has been divided into two members—the Lloyd Sand Member (Lloyd aquifer) and a conformable overlying unnamed clay member (Raritan confining unit). These members are differentiated primarily by grain size. The intervening conformity is relatively flat lying and dips gradually to the southeast (sheet 2).

The first interval of nondeposition (or erosion) is shown by a distinct unconformity that separates the fine-grained clay member of the Raritan Formation from the coarse basal zone of the Matawan Group and Magothy Formation, undifferentiated (Magothy aquifer). This unconformity is shown on the surface configuration of the Raritan clay member (sheet 2) and indicates little erosion.

After the interval of nondeposition, the Magothy Formation was deposited in an environment again dominated by streams and coalescing deltas (Doriski and Wilde-Katz, 1983). Its coarse basal zone indicates an environment of high energy that decreased rapidly, causing an upward gradation to the fine sands and clays that form the bulk of this unit.

The Monmouth Group (Monmouth greensand) unconformably overlies the Matawan Group and Magothy Formation, undifferentiated. The unconformity between these units indicates a second interval of nondeposition or erosion during the Cretaceous on Long Island. The surface of this deposit is gently rolling with no severe erosion (sheet 3). The clay and silty sand material that forms the Monmouth Group (sheet 3) was deposited by a transgressing sea. The abundance of glauconite indicates a quiet marine environment.

Although Tertiary deposits are reported offshore south of Long Island, they are not present onshore. Whether Tertiary deposition occurred and was subsequently eroded, or never occurred, is uncertain.

Several episodes of Pleistocene glaciation by a southward advance from New England and the Hudson River valley severely eroded the Cretaceous deposits. The unconformity, which extends across Long Island between all Cretaceous and overlying deposits, reflects the glacial scouring and glaciofluvial erosion typical of the high-energy Pleistocene environments.

The well-dissected surface of Cretaceous or older deposits is depicted on sheet 1. The erosion is most severe on the north shore and in Long Island Sound, where glacial processes locally cut through the entire sequence of Cretaceous deposits and, in some areas, into crystalline bedrock. Several deep channels in the Cretaceous surface in central Suffolk County indicate severe scouring by ice tongues and erosion in meltwater channels that trend both along the ice margin and southward.

The lack of ice-contact erosion on the relatively flat-lying Cretaceous surface in the south half of the island marks the furthest extent of any of the glacial advances.

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The oldest Pleistocene deposit is the Jameco Gravel (Jameco aquifer), which is present only in western Long Island. It is a channel filling of gravel and coarse sand of Illinoian age and may be the remnant of a high-energy ancestral Hudson River (Soren, 1978). The surface of this unit (sheet 3) probably underwent extensive erosion and reworking by glaciation and fluvial processes during interglacial periods.

The effects of eustatic sea-level changes during the Pleistocene are shown by several lagoonal and shallow-bay clays along southern Long Island. The most prominent of these is the Gardiners Clay (sheet 3), which was probably deposited during Sangamon interglaciation (Soren, 1971).

Subsequent deposition on Long Island, except for small recent deposits, occurred in late Wisconsin glaciation. Long Island's present topography is characterized by the Ronkonkoma and Harbor Hill moraine ridges and a gradually southward sloping outwash plain south of the moraines.

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Table 1.—**Hydrogeologic units of Long Island and their water bearing properties**
[ft/d, feet per day; ft, feet]

System	Series	Geologic unit	Hydrogeologic unit	Approximate maximum thickness (ft)	Character of deposits	Water bearing properties
Quaternary	Holocene	Recent deposits: Salt marsh deposits, stream alluvium, shoreline deposits and fill	Recent deposits	50	Sand, gravel, clay, silt, organic mud, peat, loam, and shells. Colors are gray, brown, green, black, and yellow.	Beach deposits are highly permeable; marsh deposits poorly permeable. Locally hydraulically connected to underlying aquifers.
	Pleistocene	Upper Pleistocene deposits	Upper glacial aquifer	700	Till composed of clay, sand, gravel, and boulders, forms Harbor Hill and Ronkonkoma terminal moraines. Outwash deposits consist of quartzose sand, fine to very coarse, and gravel, pebble to boulder sized. Also contains lacustrine, marine, and reworked deposits. Local units are Port Washington aquifer and confining unit, "20-foot clay," and clay at Smithtown.	Till is poorly permeable. Outwash deposits are moderately to highly permeable. Glaciolacustrine and marine clay deposits are mostly poorly permeable but locally have thin, moderately permeable layers of sand and gravel. Average horizontal hydraulic conductivity is approximately 270 ft/d; conductivity of morainal material is approximately 50 percent of outwash deposits; anisotropy is approximately 10:1.
		unconformity				
		Gardiners Clay	Gardiners Clay	150	Clay, silt, and few layers of sand. Colors are grayish green and brown. Contains marine shells and glauconite.	Poorly permeable; constitutes a confining layer for underlying aquifer. Some sand lenses may be permeable. Average vertical hydraulic conductivity is approximately 0.001 ft/d.
		unconformity				
		Jameco Gravel	Jameco aquifer	200	Sand, fine to very coarse, and gravel to large-pebble size; few layers of clay and silt. Gravel is composed of crystalline and sedimentary rocks. Color is mostly brown.	Moderately to highly permeable. Confined by overlying Gardiners clay. Average horizontal hydraulic conductivity is 200 to 300 ft/d; anisotropoy is approximately 10:1.
		Monmouth Group	Monmouth greensand	200	Interbedded marine deposits of clay, silt, and sand, dark-greenish gray, greenish-black. greenish, dark-gray, and black, containing much glauconite.	Poorly permeable; primarily a confining unit for underlying Magothy aquifer. Average vertical hydraulic conductivity is approximately 0.001 ft/d.
		unconformity				
					Sand, fine to medium clayey in part;	Most layers are poorly to moderately

[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
					[redacted] Smithtown.	[redacted] of outwash deposits; anisotropy is approximately 10:1.
	Pleistocene	unconformity				
		Gardiners Clay	Gardiners Clay	150	Clay, silt, and few layers of sand. Colors are grayish green and brown. Contains marine shells and glauconite.	Poorly permeable; constitutes a confining layer for underlying aquifer. Some sand lenses may be permeable. Average vertical hydraulic conductivity is approximately 0.001 ft/d.
		unconformity				
		Jameco Gravel	Jameco aquifer	200	Sand, fine to very coarse, and gravel to large-pebble size; few layers of clay and silt. Gravel is composed of crystalline and sedimentary rocks. Color is mostly brown.	Moderately to highly permeable. Confined by overlying Gardiners clay. Average horizontal hydraulic conductivity is 200 to 300 ft/d; anisotropoy is approximately 10:1.
Cretaceous	Upper Cretaceous	Monmouth Group	Monmouth greensand	200	Interbedded marine deposits of clay, silt, and sand, dark-greenish gray, greenish-black, greenish, dark-gray, and black, containing much glauconite.	Poorly permeable: primarily a confining unit for underlying Magothy aquifer. Average vertical hydraulic conductivity is approximately 0.001 ft/d.
		unconformity				
		Matawan Group – Magothy Formation, undifferentiated	Magothy aquifer	1,100	Sand, fine to medium clayey in part; interbedded with lenses and layers of coarse sand and sandy and solid clay. Gravel is common in basal zone. Sand and gravel are quartzose. Lignite, pyrite, and iron oxide concretions are common. Colors are gray, white, red, brown, and yellow.	Most layers are poorly to moderately permeable; some are highly permeable locally. Water is unconfined in uppermost parts, elsewhere is confined. Constitutes principal aquifer for public supply. Average horizontal hydraulic conductivity is 50 ft/d; anistrophy is approximately 100:1.
		unconformity				
		Raritan Formation – Unnamed clay member	Raritan confining unit	200	Clay, solid and silty; few lenses and layers of sand. Lignite and pyrite are common. Colors are gray, red, and white, commonly variegated.	Poorly to very poorly permeable; constitutes confining layer for underlying Lloyd aquifer. Average vertical hydraulic conductivity is approximately 0.001 ft/d.
		Raritan Formation – Lloyd Sand Member	Lloyd aquifer	500	Sand, fine to coarse, and gravel, commonly with clayey matrix; some lenses and layers of solid and silty clay; locally contains thin lignite layers. Sand and most of gravel are quartzose. Colors are yellow, gray, and white; clay is red locally.	Poorly to moderately permeable. Water is confined by overlying Raritan clay. Average horizontal hydraulic conductivity is 40 ft/d; anisotropy is approximately 10:1.
Paleozoic and Precambrian		Bedrock	Bedrock		Crystalline metamorphic and igneous rocks; muscovite-biotite schist, gneiss, and granite. A soft, clayey zone of weathered bedrock locally is more than 70 ft thick.	Poorly permeable to virtually impermeable; constitutes lower boundary of ground-water reservoir. Some hard fresh water is contained in joints and fractures but is impractical to develop at most places.

ALTITUDE OF THE UPPER SURFACE OF SUBCROPS OF CRETACEOUS DEPOSITS AND BEDROCK BENEATH THE UPPER GLACIAL AQUIFER, LONG ISLAND, NEW YORK

EXPLANATION

SUBCROP OF HYDRO-GEOLOGIC UNITS

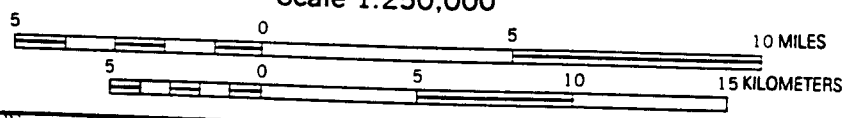
CRETACEOUS

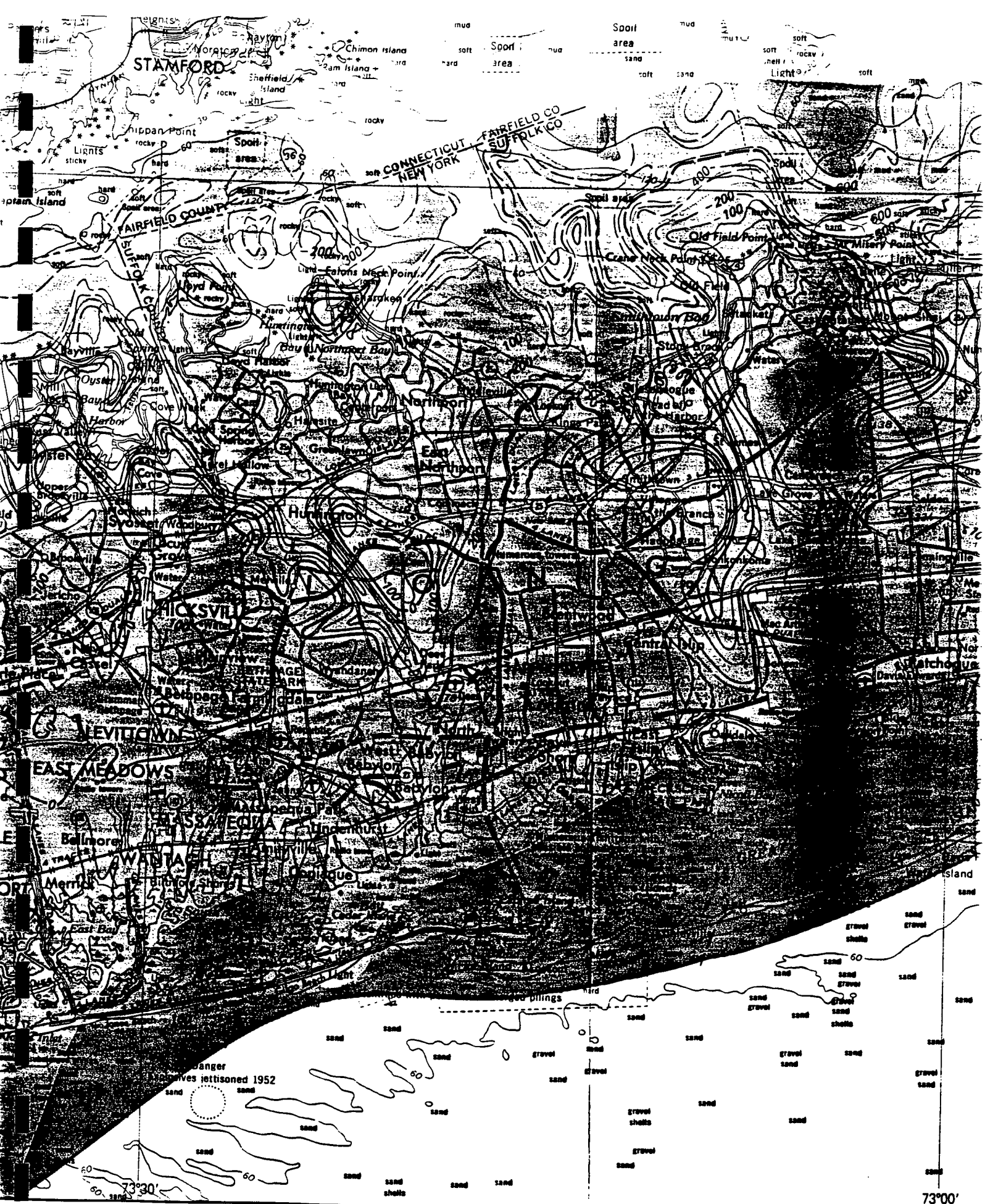
- Monmouth greensand
- Magothy aquifer
- Raritan confining unit
- Lloyd aquifer

Bedrock

—50— STRUCTURE CONTOUR—Shows altitude of upper surface of Cretaceous deposits and Bedrock. Dashed where approximately located. Hachures indicate depressions. Contour interval 50 and 100 feet. National Geodetic Vertical Datum of 1929

Scale 1:250,000





ALTITUDE OF THE UPPER SURFACE OF CRE

ALTITUDE OF THE UPPER SURFACE OF THE RARITAN CONFINING UNIT, LONG ISLAND, NEW YORK

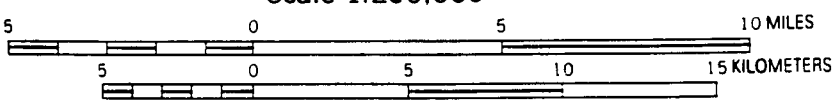
EXPLANATION

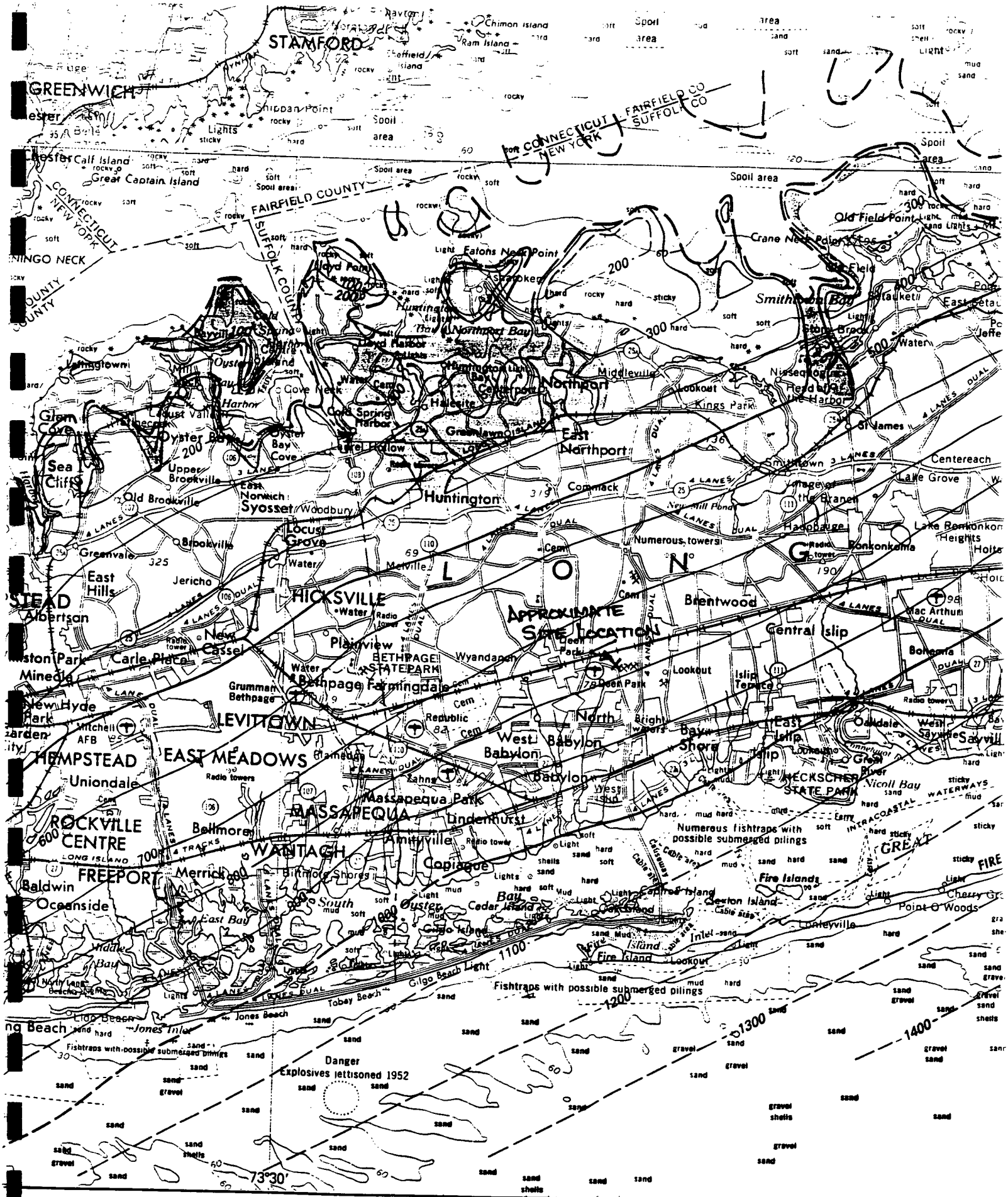
SHADING INDICATES LOCATION OF SUBCROP OF THE RARITAN CONFINING UNIT

UPDIP LIMIT OF THE RARITAN CONFINING UNIT

STRUCTURE CONTOUR—Shows the upper surface of the Raritan confining unit. Dashed where approximately located. Contour interval 100 feet. National Geodetic Vertical Datum of 1929

Scale 1:250,000





ALTITUDE OF THE UPPER SURFACE OF THE RARITAN CONFINING UNIT

ALTITUDE OF THE UPPER SURFACE OF THE MAGOTHY AQUIFER, LONG ISLAND, NEW YORK

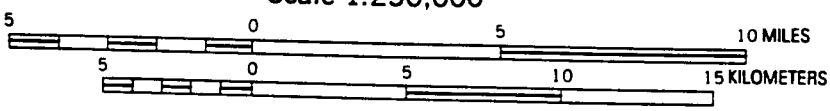
EXPLANATION

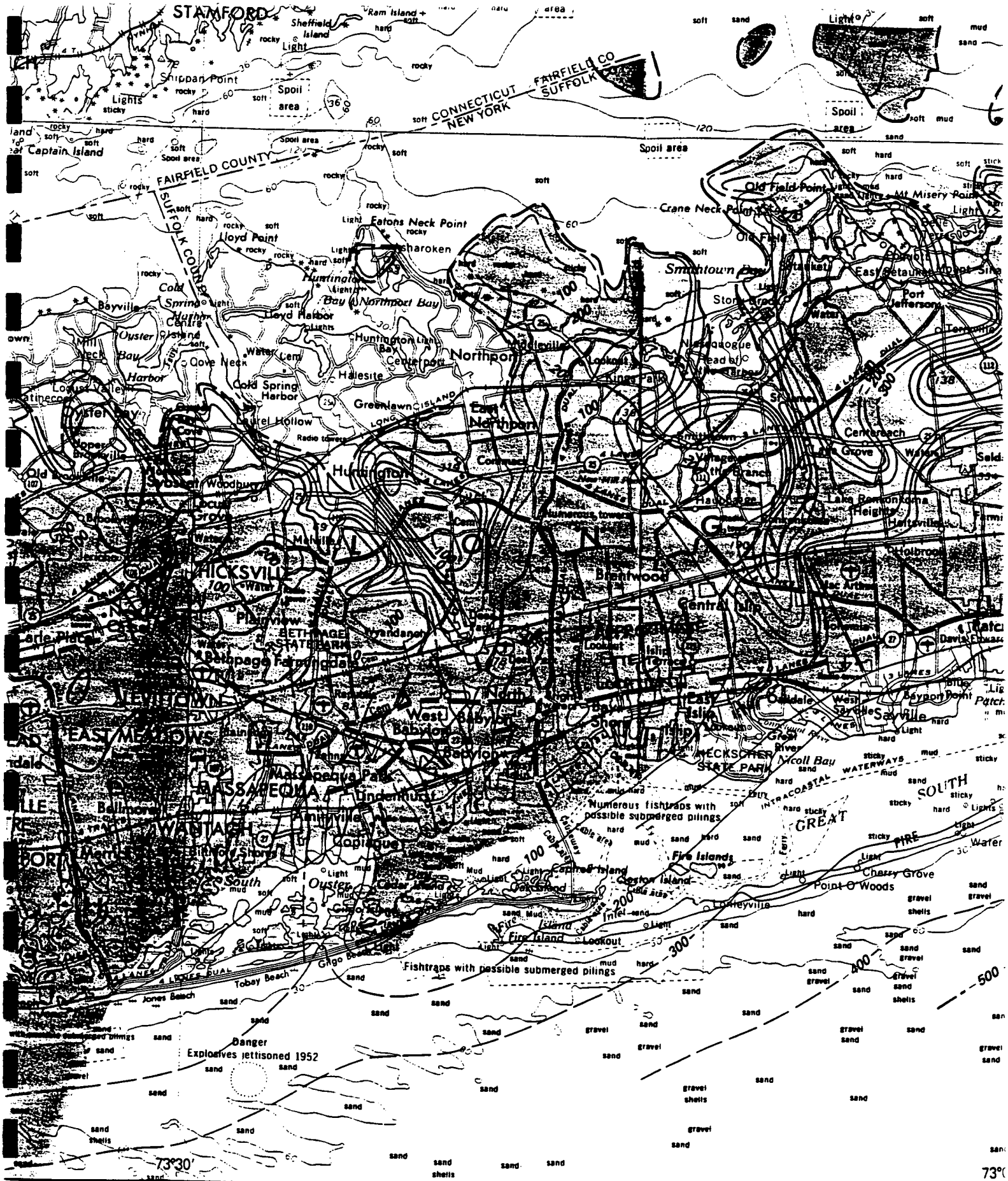
SHADING INDICATES LOCATION OF SUBCROP OF THE MAGOTHY AQUIFER

UPDIP LIMIT OF THE MAGOTHY AQUIFER

—0— STRUCTURE CONTOUR—Shows the upper surface of the Magothy aquifer. Dashed where approximately located. Contour interval 50 and 100 feet. National Geodetic Vertical Datum of 1929

Scale 1:250,000





ALTITUDE OF THE UPPER SURFACE OF THE MAGOTHY AQUIFER

REFERENCE NO. 13

WESTON

PROJECT NOTE

TO: Commercial Envelope Mfg. Co., Inc. file DATE: 24 June 1994

FROM: D. D. Minsavage W.O. NO.: 04200-022-081-0001a-02

SUBJECT: Well head protection areas located within 4 miles of the site.

The NYSDEC / Division of Water designated the following areas as well head protection areas on Long Island:

- The deep flow recharge area of the Magothy and Lloyd aquifers
- fixed variable shape zone: radius of 1,500 feet upgradient and radius of 600 feet downgradient of any public water supply well drawing from the Glacial aquifer.

[See Attachment A]

The NYSDEC well head protection area plan has been accepted by the U.S. EPA [See Attachment B]

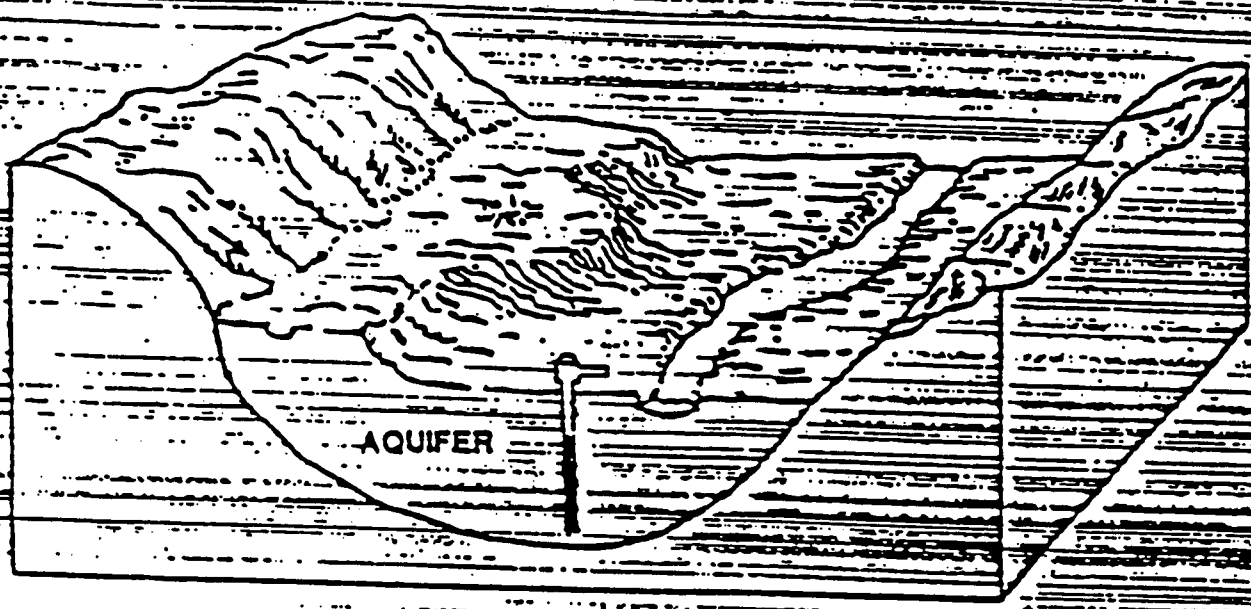
Review of available background information does not indicate the presence of a deep flow Recharge area of either the Magothy or Lloyd aquifers within 4 miles of the site [See Attachment C]

Suffolk County Water Authority and Dix Hills Water District operate potable water wells, drawing from the Glacial aquifer within 4 miles of the site; however, none of the "Glacial" wells is located within 1 mile of the site. Therefore, the site does not overlie a wellhead protection area. [See "Potable water sources" Project Note]

ATTACHMENT A

Department of Environmental Conservation

PROPOSED NEW YORK STATE WELLHEAD PROTECTION PROGRAM



Submittal

to

United States Environmental Protection Agency

New York State Department of Environmental Conservation

MARIO M. CUOMO, Governor — THOMAS C. JORLING, Commissioner

May 1990

Approved by EPA

PROPOSED
NEW YORK STATE
WELLHEAD PROTECTION PROGRAM

SUBMITTAL
TO
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
IN
APPLICATION FOR IMPLEMENTATION FUNDS

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF WATER
ALBANY, NY

MAY 1990

with the overall wellhead protection objectives if they unduly diminish funds available for management program implementation or if the management program does not require great sophistication. Increased refinements of delineations are justifiable to the extent that corresponding refinements in management and enforcement are practical and possible.

1.4. Wellhead Protection Program Summary

This summary is an overview of material developed in more detail in Chapters 2 through 8.

1.4.1. Agency Responsibilities

The Department of Environmental Conservation (DEC) is the principal agency responsible for developing and implementing state-level aspects of the Wellhead Protection Program and for coordination. The Department of Health (DOH) is responsible for certain aspects related to public water supply well data, contingency planning, new well planning, and Watershed Rules and Regulations. Regional and county planning agencies and county governments are responsible for county-level planning, management and educational outreach elements in the overall program, in addition to any county-level ordinances developed for wellhead protection. Town, village and city governments are responsible for local land use control, local ordinances and other local-level aspects of wellhead protection. Water suppliers will have a role in developing local Watershed Rules and Regulations, education, land acquisition and other program aspects determined by DEC and DOH. The educational effort will be shared by all levels, including Cooperative Extension, the universities and the State Education Department. Federal agencies and other state agencies will participate as appropriate, as coordinated by DEC with the assistance of EPA for federal agencies.

1.4.2. Wellhead Protection Area Delineation

The Safe Drinking Water Act defines a Wellhead Protection Area (WHPA) as "the surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfields." This definition is not specific because there is no time framework and because there is a requirement that contaminants be reasonably likely to reach the well, a condition that is very difficult to accurately predict. States are given flexibility by the Safe Drinking Water Act in determining delineation approaches.

New York State proposes that unconsolidated aquifer boundaries serve as the fundamental delineation of wellhead protection areas and that a multiple zone approach be used within the total WHPA for varying management relative to risk. This approach is modified for Long Island and for bedrock aquifers, as described in Chapter 3. New York's approach proposes to allow local flexibility in an evolutionary process of delineation refinements, and to allow utilization of previously delineated protection areas, where appropriate.

There are many distinct advantages in this overall approach. A very important advantage is that considerable aquifer characterization and mapping work has already been accomplished. Second, it is consistent with the evolution and principal policies of both the comprehensive New York State Groundwater Management Program (1987) and New York State Water Resources Management Strategy (1989), in addition to the New York State Watershed Rules and Regulation policies. Third, it focuses attention of local governments on the entire aquifer resource and facilitates contingency planning and new (or future) well protection. Finally, it provides a base within which more sophisticated delineations (e.g., subdividing the overall WHPA) can be made as programs require and funding permits.

A possible drawback of using aquifer boundaries—that aquifers may be broad regional systems—is not a major problem in most of New York State. In Upstate New York most public water supplies using groundwater are in unconsolidated aquifers of rather limited areal extent. Most important recharge areas are within the boundaries of the unconsolidated aquifers, another advantage of this approach.

Chapter 3 provides further details and background on wellhead protection area delineation.

CHAPTER 3

WELLHEAD PROTECTION AREA DELINEATION

3.1. Introduction and Institutional Processes

3.1.1. Introduction

The comprehensive New York State Groundwater Management Program, developed in the early 1980's and published in revised and final documents in 1986 (for Long Island) and 1987 (for Upstate), recommended key policies and program initiatives endorsing geographic targeting and critical area protection. These concepts were forerunners of the Safe Drinking Water Act's Wellhead Protection Program. Significant progress has been made in different aspects of geographic targeting of programs and in different parts of New York State. New York acknowledges these accomplishments as an integral part of its overall Wellhead Protection Program.

Delineation determines geographic areas for which different levels of groundwater protection activities are to be instituted. The Wellhead Protection Program in New York State is intended to accomplish a wider recognition of targeting objectives by all levels of government, by citizens in general, and to begin an evolutionary process toward improved targeting and protective program implementation.

The basic wellhead protection delineation approach in New York State recognizes aquifers as the fundamental geographic unit for targeting management efforts. This approach must be modified where aquifers are broad regional systems (DEC considers this case to occur only on Long Island), or where aquifers are not well characterized (considered to be the case for bedrock aquifers, in general). Elsewhere, the unconsolidated aquifers of New York tend to be of limited areal extent and they generally include the important recharge areas within their boundaries. These unconsolidated aquifers also are the source of the large majority of groundwater-derived public water supply systems.

The New York State Wellhead Protection Program proposes that unconsolidated aquifer boundaries (the land surface overlying the aquifer) serve as the baseline definition for the overall wellhead protection area (WHPA). For the baseline definition, both confined and unconfined unconsolidated aquifers are grouped together. Revisions are allowable based on site-specific evaluations. This aquifer boundary approach is proposed to be modified on Long Island and for wells in bedrock aquifers as described in Section 3.2. For all public water supply wells, specific proposed WHPA delineation policies are described in Section 3.2.

The aquifer boundary approach for the overall WHPA has several distinct advantages. It takes advantage of considerable recent and ongoing work in mapping and detailed assessments of aquifer boundaries. Incorporating this work directly into the Wellhead Protection Program provides a practical way for more effective targeting to move forward rapidly rather than being constrained by the need to perform modeling to delineate protection areas.

The aquifer approach also encompasses other non-public wells and potential future well sites, and places major focus on the high-yielding groundwater resources which are most important and most vulnerable. This last aspect is considered very important in the education component of wellhead protection, both for local officials and for the general public.

Wellhead protection area delineation is an evolutionary process. The first need for refinement is the further subdivision of the total wellhead protection area, as required for differentiated management objectives. A second area for potential refinement is delineation of the overall WHPA in the Glacial Aquifer on Long Island and in bedrock aquifers. Issues related to these topics are reviewed in both Sections 3.2 and 3.3. Flexibility for refinement or revision is very important due to the wide variability in

TABLE 3.1.
WELLHEAD PROTECTION AREA
DELINEATION SUMMARY

Geographic Region	Aquifer Area	Wellhead Protection Area Baseline Delineation
Long Island	Magothy & Lloyd Aquifers	Deep Flow Recharge Area
	Glacial Aquifer	Simplified Variable Shape: 1,500 ft. radius upgradient 500 ft. radius downgradient
Upstate	Unconsolidated Aquifers	Aquifer Boundaries (land surface)
	Bedrock Aquifers	Fixed Radius: 1,500 ft. radius

"Potential Yields of Wells in Unconsolidated Aquifers in Upstate New York" by the U.S. Geological Survey. Specifically, these maps, distributed for sale by the U.S. Geological Survey, are as follows:

1. Bugliosi, E.F., et al., 1988. Potential Yields of Wells in Unconsolidated Aquifers in Upstate New York - Lower Hudson Sheet. Water Resources Investigations Report 87-4274. U.S. Department of the Interior, Geological Survey, Albany, NY.

2. Bugliosi, E.F., et al., 1988. Potential Yields of Wells in Unconsolidated Aquifers in Upstate New York - Hudson Mohawk Sheet. Water Resources Investigations Report 87-4275, U.S. Department of the Interior, Geological Survey, Albany, NY.

3. Bugliosi, E.F., et al., 1988. Potential Yields of Wells in Unconsolidated Aquifers in Upstate New York - Adirondack Sheet. Water Resources Investigations Report 87-4276, U.S. Department of the Interior, Geological Survey, Albany, NY.

4. Miller, T.S., 1988. Unconsolidated Aquifers in Upstate New York - Finger Lakes Sheet. Water Resources Investigations Report 87-4122, U.S. Department of the Interior, Geological Survey, Albany, NY.

5. Miller, T.S., 1988. Potential Yields of Wells in Unconsolidated Aquifers in Upstate New York - Niagara Sheet. Water Resources Investigations Report 88-4076. U.S. Department of the Interior, Geological Survey, Albany, NY.

The boundaries illustrated on these maps serve as the total wellhead protection areas for public water supplies utilizing those aquifers. In certain cases, more detailed aquifer boundary maps or determinations for primary or principal aquifers (subsets of the full range of unconsolidated aquifers) have been or will be made by the U.S. Geological Survey or NYS Department of Environmental Conservation. These more detailed boundary determinations will generally supersede boundaries illustrated on the above referenced maps as "revised" delineations of wellhead protection areas.

Both unconfined and confined unconsolidated aquifers are included on these maps and both are included in this definition of the overall wellhead protection area.

For all public water supplies utilizing groundwater, the overall wellhead protection area (WHPA) delineation will be subdivided into two parts. The innermost zone is referred to as the Remedial Action Area. The remainder of the WHPA is referred to as the Wellfield Management Area. The terminology is derived from the EPA guidance referenced earlier. Depending on local management objectives for groundwater protection, local hydrogeology, and data availability and resource availability, the Wellfield Management Area may be further subdivided. This further subdivision of the Wellfield Management Area would be considered a refinement of the "baseline" delineation. Methodologies, criteria and thresholds used for such revisions are flexible. Approaches proposed by local water purveyors will be evaluated and approved or disapproved upon submittal to the New York State Department of Environmental Conservation.

The term "baseline" delineation, as used in this submittal, is intended to represent the initial WHPA delineation advocated by the Department of Environmental Conservation. The delineation may be directly utilized in implementing management activities for groundwater protection. However, if site-specific conditions suggest that alternative delineations are appropriate (including the further subdivision of the Wellfield Management Area already cited), those delineations may be accepted by the Department of Environmental Conservation. The evolution of improved delineation techniques, the growing availability of hydrogeologic information, and the longer-term enhancements of groundwater protection programs may lead to a redefinition of the baseline delineations by the Department of Environmental Conservation.

These baseline delineations apply to public water supply wells. Applicants for new public water supply wells may be required to perform

alternative site-specific delineations according to conditions stipulated through the Water Supply Permit Program (refer to Chapter 7).

The proposed WHPA delineations are described according to the following geographic and hydrogeologic settings. They are also summarized in Table 3.1.

- Unconsolidated Aquifers - Upstate New York

1. WHPA Definition:

The boundaries of wellhead protection areas for public water supplies in unconsolidated aquifers in Upstate New York are the land surface boundaries of the aquifers as illustrated on the five-aquifer sheet maps for Upstate published and distributed by the U.S. Geological Survey (see earlier reference). These boundaries may be revised in accordance with more detailed primary and principal aquifer maps and boundary determinations as approved by the Department of Environmental Conservation. The maps provide definition for both unconfined and confined aquifers. Revisions of these boundaries may be made, pending approval by the Department of Environmental Conservation.

2. Rationale:

The delineations proposed above are hydrogeologically-based and are consistent with the policies and goals of the Upstate Groundwater Management Program already adopted and certified by the Governor of New York as an element of the New York State Water Quality Management Plan.

3. Mapping and Case Studies:

Mapping of these areas is already completed and published. Case studies are not considered appropriate, as the maps have been reviewed and approved by the U.S. Geological Survey and the Department of Environmental Conservation as part of the publication process.

4. Public Water Supply Significance:

The large majority of public water supplies using groundwater, particularly for municipal and community systems, are located in unconsolidated aquifers. It is expected that a significant proportion of additional future supplies will also tap these systems.

- Bedrock Aquifers - Upstate New York

1. WHPA Definition:

The baseline boundaries of wellhead protection areas for public water supplies in bedrock aquifers are fixed radius areas with a radius of 1,500 feet from the wellhead. Revisions based on site-specific information are desirable, with the goals being to identify and delineate principal recharge areas. Revisions may be developed, pending approval by the Department of Environmental Conservation.

2. Rationale:

The fixed radius approach for the initial WHPA is not based on estimated times-of-travel or drawdown. It provides a substantial increase in protection over more commonly existing protection zones (typically 100 feet or 200 feet). The principal rationale is that the baseline delineation gives a basis for immediate action on wellfield management without requiring expensive site-specific delineations. Revisions based on local conditions are encouraged, particularly for municipal community systems, of which there are relatively few in the State. The geographic targeting benefits of uniformly delineating substantially larger fixed radius areas for all bedrock wells are very questionable. Many of the bedrock public water supply wells are among the approximately 10,000 non-community public wells (e.g., isolated public buildings, roadside rest areas, etc.). There will be little geographic targeting advantage for groundwater protection programs if

numerous 3 to 12 square mile WHPA's (1-2 mile radius) for non-community wells intersect or nearly intersect across the State. It must be recognized that all fresh groundwaters in bedrock aquifers are classified as GA groundwaters and thus are already protected by substantial statewide protection programs which use rigorous ambient water quality standards in their design.

3. Mapping and Case Studies:

Mapping will be performed according to the phasing priorities described in Section 3.3. Case studies of fixed radius approaches are not considered to be of significant benefit. As proposals for revisions based on alternative approaches are submitted to the Department of Environmental Conservation, they will be evaluated for potential use as models for comparable hydrogeologic conditions.

4. Public Water Supply Significance:

Relatively few municipal community systems utilize bedrock aquifers in New York State and those that do are generally with low population dependence. Public water supplies in bedrock aquifers are typically non-community wells serving small numbers of people.

Magothy and Lloyd Aquifers - Long Island

1. WHPA Definition:

The boundaries of the wellhead protection area for public water supplies using the Magothy and Lloyd aquifers are the boundaries of the Deep Flow Recharge Area as recognized by the Department of Environmental Conservation. Refinements within the overall WHPA may include further definition of Wellfield Management Areas, pending approval by the Department of Environmental Conservation.

2. Rationale:

The Deep Flow Recharge Area was determined to be the most important overall groundwater protection area for wells in the Magothy and Lloyd aquifers in the Long Island Groundwater Management Program already adopted and certified by the Governor of New York as an element of the New York State Water Quality Management Program. The delineations have also been adopted in the Suffolk County Sanitary Code.

3. Mapping and Case Studies:

Mapping of the Deep Flow Recharge Area is already completed. Additional case studies are not considered appropriate.

4. Public Water Supply Significance:

Most public water in Nassau County is withdrawn from the Magothy aquifer. The majority of public water supplies in Suffolk County are also withdrawn from the Magothy aquifer. Of those public water supplies in Suffolk County utilizing the Glacial aquifer, approximately half are located within the Deep Flow Recharge Area. Thus, these wells are included within the overall wellhead protection area for the deeper aquifers.

Glacial Aquifer - Long Island

1. WHPA Definition:

The boundaries of the wellhead protection area for public water supplies using the Glacial aquifer are defined as a fixed variable shape zone with a fixed radius in the upgradient groundwater flow direction of 1,500 feet and a fixed radius in the downgradient direction of 500 feet. Revisions may be made, pending approval by the Department of Environmental Conservation.

ATTACHMENT B

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
26 FEDERAL PLAZA
NEW YORK, NEW YORK 10278

SEP 27 1990

Honorable Mario M. Cuomo
Governor of the State of
New York
State Capitol
Executive Chamber
Albany, New York 12224

Dear Governor Cuomo:

In response to a letter from former EPA Administrator, Lee Thomas, you designated the New York State Department of Environmental Conservation (DEC) as the lead State agency for the development and implementation of New York's Wellhead Protection Program under Section 1428 of the Safe Drinking Water Act Amendments of 1986 (SDWA).

In accordance with the SDWA, the DEC submitted a draft Wellhead Protection (WHP) Program document to EPA, Region II, on June 19, 1989. Under Section 1428 of the SDWA, EPA must evaluate each State's Program document to determine whether the Program is fully adequate to protect public water supply systems from contaminants that may have an adverse effect on the public's health.

EPA Region II reviewed DEC's June 1989 submittal and subsequent addenda that were received over the next few weeks. Comments were sent to the State, and DEC revised its plan to address comments from EPA and the public. The revised documents, received in September 1990, responded to all comments sufficiently. Therefore, I am pleased to inform you that the New York Wellhead Protection Program document adequately addresses the requirements of Section 1428 of the Safe Drinking Water Act and the program is fully approved.

The level of activity and sense of commitment to Wellhead Protection on the part of New York State is impressive, especially considering the delays associated with Congressional appropriations for the WHP Program. It is a great credit to the Department of Environmental Conservation, and in particular to the staff of the Division of Water, to have successfully completed the Wellhead Protection Program document. New York State is one of twenty-seven states nationwide to have submitted a WHP Program document within the time frame specified by the SDWA and is one of the first states to receive EPA approval of its program. We recognize your continual efforts to improve upon the program, as reflected in the current revisions to New York's Wellhead Protection Program document.

New York has made major strides in ground water protection over the years, particularly with respect to the development of the State's Upstate and Long Island Ground Water Management Programs, the Nonpoint Source Management Program, and the Water Resources Management Strategy. The State has established itself as a national leader in ground water protection, and EPA looks forward to further advances in this area.

EPA continues to support New York State in the implementation of the Wellhead Protection Program. Federal funding is presently available under Section 106 of the Clean Water Act to support the Department of Environmental Conservation with this new program. Our Ground Water Management Section staff will assist DEC in preparing a WHP implementation workplan for the use of these funds in the coming fiscal year.

Again, congratulations on the accomplishments of your staff.

Sincerely,

Constantine Sidamon-Eristoff
Regional Administrator

cc: Thomas Jorling, NYSDEC
Sal Pagano, NYSDEC
Phil DeGaetano, NYSDEC
Al Tedrow, NYSDEC
Kevin Roberts, NYSDEC

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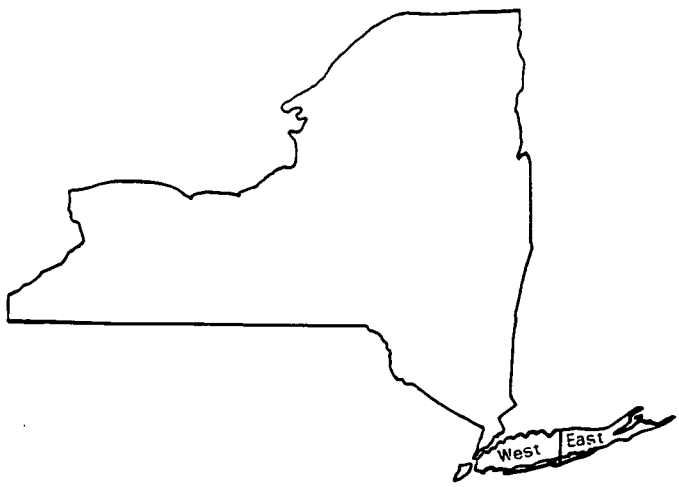
ATTACHMENT C

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

POTENTIOMETRIC-SURFACE ALTITUDE OF MAJOR AQUIFERS ON LONG ISLAND, NEW YORK, IN 1983

By
Thomas P. Doriski



WATER-RESOURCES INVESTIGATIONS REPORT 85-4321

Plate 1. Water-table altitude

Plate 2. Water-table well numbers

Plate 3. Potentiometric surface of Magothy aquifer

Plate 4. Potentiometric surface of Lloyd aquifer

Prepared in cooperation with the

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
SUFFOLK COUNTY WATER AUTHORITY

Syosset, New York

1986

POTENTIOMETRIC SURFACE OF THE MAGOTHY AQUIFER, LONG ISLAND, NEW YORK, IN MARCH 1983

The Magothy aquifer of the Cretaceous Magothy Formation and overlying Matawan Group undifferentiated supplies water for public supply and industrial use in Nassau and Suffolk Counties. The potentiometric-surface altitude is monitored by the U.S. Geological Survey. This map depicts the static water-level measurements taken in March 1983 in observation wells and public-supply wells screened in the Magothy aquifer.

The measurements show the potentiometric-surface altitude to range from 9.8 ft below sea level in eastern Queens County to 83.5 ft above sea level in central Nassau County (sheet 1). The general shape of the potentiometric surface is similar to that of the overlying upper glacial (water-table) aquifer, rising gradually from a depression in the western part of the island to an east-west mound in the central part. In areas where deep channels have been eroded into the Magothy aquifer and filled with glacial deposits, the potentiometric-surface contours were drawn from water levels measured in wells screened deep in these glacial deposits, which are laterally contiguous and hydraulically connected with the Magothy aquifer.

The potentiometric-surface altitude is, in general, 1 to 7 ft lower than in 1979 (Donaldson and Koszalka, 1983), except in central Queens County, where water levels in the depression area have recovered from 28 ft below sea level in 1979 to 10 ft below sea level.

On the north and south forks of eastern Suffolk County (sheet 2), water in the Magothy aquifer is saline except in the central part of the south fork (Nemickas and Koszalka, 1982). The northern limit of the Magothy aquifer in Kings and Queens Counties as depicted here has been revised in accordance with data of Buxton and others (1981); its northern limit in Nassau County has been revised according to Kilburn (1979) and Kilburn and Krulikas (1985).

Most wells shown on this map were measured in March 1983. In comparing the water levels in the Magothy aquifer with the water table (plate 1), also measured in March 1983, the user should verify that the wells in each aquifer were measured at approximately the same time of the month to account for differences due to precipitation. Information on the date and time of water-level measurements is available at the U.S. Geological Survey in Syosset, N.Y.

This work was done in cooperation with the Nassau County Department of Public Works, Suffolk County Department of Health Services, Suffolk County Water Authority, and the New York State Department of Environmental Conservation. Special thanks are extended to the water companies and private industries on Long Island who cooperated in the static water-level measurements.

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1983, Potentio-
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the Town of
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press).

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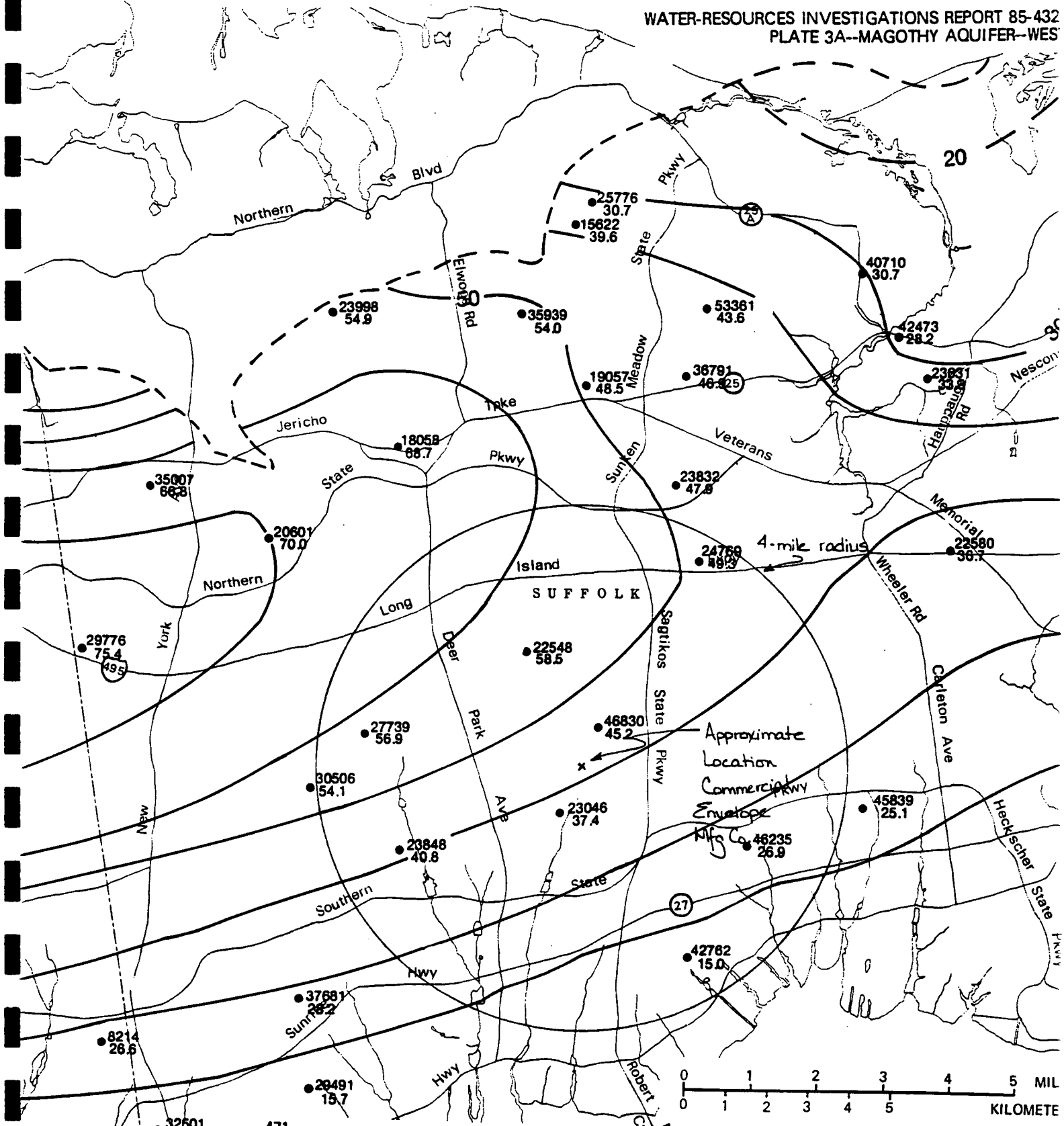
. Geological

POTENTIOMETRIC SURFACE OF THE MAGOTHY AQUIFER, LONG ISLAND, NEW YORK, MARCH 1983

WATER-RESOURCES INVESTIGATIONS REPORT 85-432
PLATE 3A--MAGOTHY AQUIFER--WES



OBSERVATION WELL AND NUMBER--Prefixes Q, N, and S for Queens, Nassau, and Suffolk Counties, respectively, are omitted. Lower number is potentiometric-surface altitude, in feet above or below (-) NGVD of 1929

10 — LINE OF EQUAL POTENTIOMETRIC-SURFACE ALTITUDE--Shows altitude at which water leve would have stood in tightly cased wells. Solid where approximately known; dashed where inferred. Contour interval 10 feet. Hachures indicate depression

INFERRED LIMIT OF MAGOTHY AQUIFER

POTENTIOMETRIC SURFACE OF THE LLOYD AQUIFER, LONG ISLAND, NEW YORK, IN JANUARY 1983

The Lloyd aquifer, in the Cretaceous Lloyd Sand Member of the Raritan Formation, is a significant source of water for public supply and a minor source for industrial use in Queens and Nassau Counties. The potentiometric surface is monitored by the U.S. Geological Survey. This map depicts static water levels of January 1983 in 72 wells screened in the Lloyd aquifer and Port Washington aquifer. (Wells screened in the Port Washington aquifer, in northern Nassau County, are included because the Port Washington aquifer seems to be hydraulically connected to the Lloyd aquifer. See Kilburn, 1979, and Kilburn and Krulikas, 1985, for the stratigraphic relationship of the two aquifers.) The northern limit of the Lloyd, and the extent of the Port Washington aquifer and the aquifer in which each well is screened, are indicated.

General trends of the potentiometric surface are similar to those in the two major overlying aquifers (plates 1 and 3); it gradually rises from a depression in the western part of the island to an east-west-trending mound in the central part. The potentiometric-surface altitude ranges from 26.8 ft below sea level in central Queens County to 39.6 ft above sea level in north-central Suffolk County.

The potentiometric-surface altitude of the Lloyd aquifer is, in general, 1 to 3 ft lower than in 1979 (Donaldson and Koszalka, 1983) except in northeastern Nassau County, where water levels are slightly higher than in 1979. The depression in Queens County is slightly larger than in 1979 and extends into western Nassau County.

In eastern Suffolk County, the Lloyd aquifer is saline and has no observation wells. The northern limit of the Lloyd aquifer in Kings and Queens Counties has been revised in accordance with data of Buxton and others (1981); the limits of the Lloyd and Port Washington aquifers in Nassau County have been revised according to Kilburn (1979) and Kilburn and Krulikas (1985).

This study was done in cooperation with the Nassau County Department of Public Works, Suffolk County Department of Health Services, Suffolk County Water Authority, and the New York State Department of Environmental Conservation. Special thanks are extended to the water companies and private industries on Long Island who cooperated in the static water-level measurements.

REFERENCES CITED

Buxton, H. T., Soren, Julian, Posner, Alex, and Shernoff, P. K., 1981, Reconnaissance of the ground-water resources of Kings and Queens Counties, New York: U.S. Geological Survey Open-File Report 81-1186, 59 p.

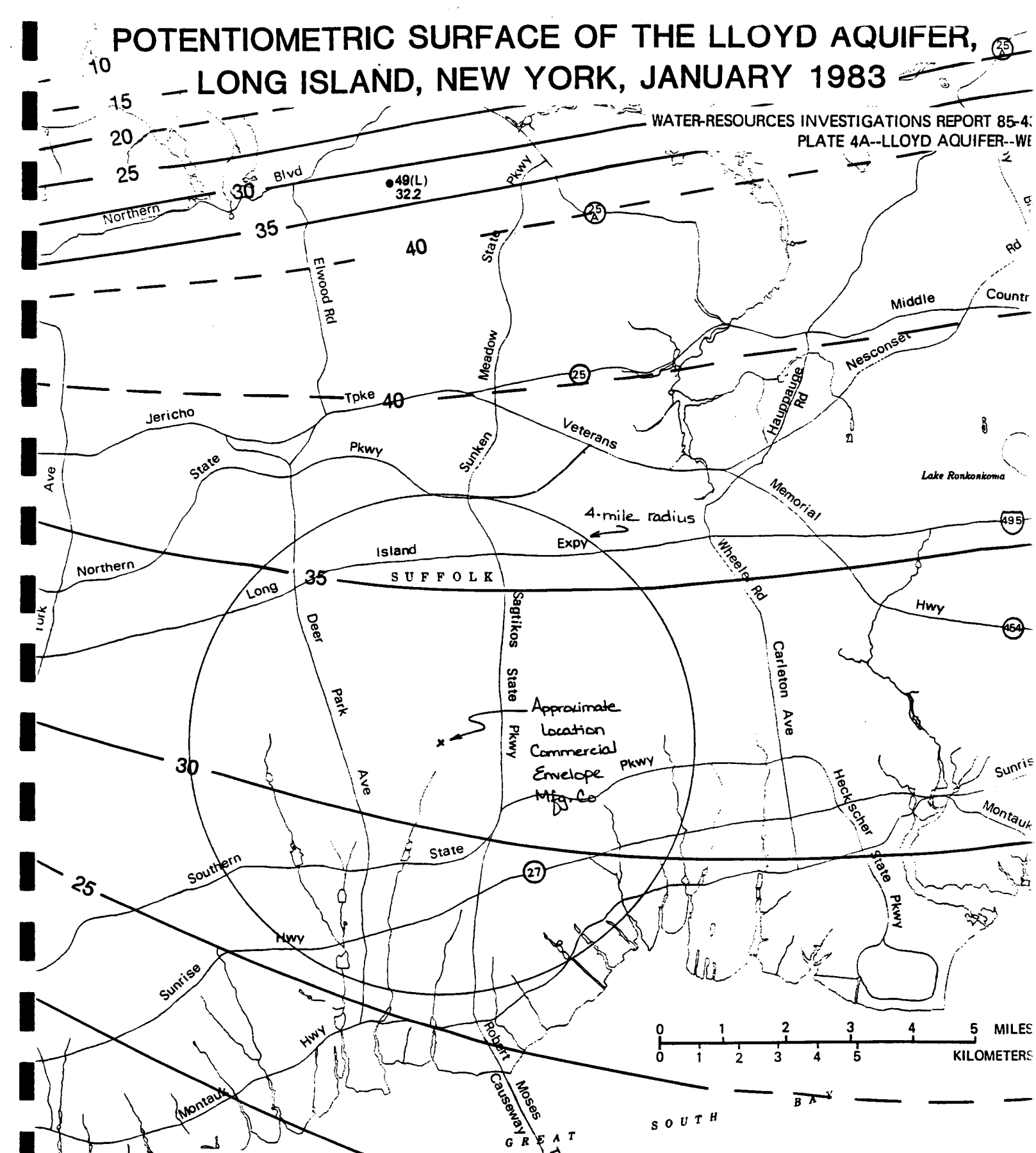
Donaldson, C. D., and Koszalka, E. J., 1983, Potentiometric surface of the Lloyd aquifer, Long Island, New York, in January 1979: U.S. Geological Survey Open-File Report 82-160, 2 sheets.

Kilburn, Chabot, 1979, Hydrogeology of the Town of North Hempstead, Nassau County, Long Island, New York: Long Island Water Resources Bulletin 12, 87 p.

Kilburn, Chabot, and Krulikas, R. K., Hydrogeology and ground-water quality of the northern part of the Town of Oyster Bay, Nassau County, New York, in 1980: U.S. Geological Survey Water-Resources Investigations Report 85-4051 (in press).

POTENTIOMETRIC SURFACE OF THE LLOYD AQUIFER, LONG ISLAND, NEW YORK, JANUARY 1983

WATER-RESOURCES INVESTIGATIONS REPORT 85-4
PLATE 4A--LLOYD AQUIFER--WE



OBSERVATION WELL AND NUMBER--Prefixes K, Q, N and S for Kings, Queens, Nassau, and Suffolk Counties, respectively, are omitted. Lower number is potentiometric-surface altitu in feet above or below (-) NGVD of 1929. (PW) indicates Port Washington aquifer. (L) indicates Lloyd aquifer

10 LINE OF EQUAL POTENTIOMETRIC-SURFACE ALTITUDE--Shows altitude at which water level would have stood in tightly-cased wells. Solid where approximately known; dashed where inferred. Contour interval 5 feet. Hachures indicate depression

INFERRED NORTHERN LIMIT OF LLOYD AQUIFER

REFERENCE NO. 14

federal register

Friday
December 14, 1990

Part II

Environmental Protection Agency

40 CFR Part 300
Hazard Ranking System; Final Rule

TABLE 3-6.—HYDRAULIC CONDUCTIVITY OF GEOLOGIC MATERIALS

Type of material	Assigned hydraulic conductivity [a] (cm/sec)
Clay; low permeability till (compact unfractured till); shale; unfractured metamorphic and igneous rocks	10^{-6} to 10^{-8}
Silt; loesses; silty clays; sediments that are predominantly silts; moderately permeable till (fine-grained, unconsolidated till, or compact till with some fractures); low permeability limestones and dolomites (no karst); low permeability sandstone; low permeability fractured igneous and metamorphic rocks	10^{-4} to 10^{-6}
Sands; sandy silts; sediments that are predominantly sand; highly permeable till (coarse-grained, unconsolidated or compact and highly fractured); peat; moderately permeable limestones and dolomites (no karst); moderately permeable sandstone; moderately permeable fractured igneous and metamorphic rocks	10^{-2} to 10^{-4}
Gravel; clean sand; highly permeable fractured igneous and metamorphic rocks; permeable basalt; karst limestones and dolomites	10^{-1} to 10^{-2}

[a] Do not round to nearest integer.

TABLE 3-7.—TRAVEL TIME FACTOR VALUES [a]

Hydraulic conductivity (cm/sec)	Thickness of lowest hydraulic conductivity layer(s) [b] (feet)			
	Greater than 3 to 5	Greater than 5 to 100	Greater than 100 to 500	Greater than 500
Greater than or equal to 10^{-3}	35	35	35	25
Less than 10^{-3} to 10^{-5}	35	25	15	15
Less than 10^{-5} to 10^{-7}	15	15	5	5
Less than 10^{-7}	5	5	1	1

[a] If depth to aquifer is 10 feet or less or if, for the interval being evaluated, all layers that underlie a portion of the sources at the site are karst, assign a value of 35.

[b] Consider only layers at least 3 feet thick. Do not consider layers or portions of layers within the first 10 feet of the depth to the aquifer.

Determine travel time only at locations within 2 miles of the sources at the site, except: if observed ground water contamination attributable to sources at the site extends more than 2 miles beyond these sources, use any location within the limits of this observed ground water contamination when evaluating the travel time factor for any aquifer that does not have an observed likelihood of release factor category value for that aquifer. Otherwise, assign the potential to release factor value for that aquifer as the likelihood of release value. Enter the value assigned in Table 3-1.

3.2 *Waste characteristics.* Evaluate the waste characteristics factor category for an aquifer based on two factors: toxicity/mobility and hazardous waste quantity.

3.2.1.1 *Toxicity.* Assign a toxicity factor value to each hazardous substance as specified in Section 2.4.1.1.

3.2.1.2 *Mobility.* Assign a mobility factor value to each hazardous substance for the aquifer being evaluated as follows:

- For any hazardous substance that meets the criteria for an observed

REFERENCE NO. 15

NOTES TO THE USER

- Wetlands which have been field examined are indicated on the map by an asterisk (*).
- Dominance type (either vegetative or sedentary animal) can be added to the map by the interested user.
- Additions or corrections to the wetlands information displayed on this map are solicited. Please forward such information to the address indicated.
- Some areas designated R4SB, R4SBW, or R4SBJ (intermittent streams) may not meet the definition of wetlands.

AERIAL PHOTOGRAPHY

DATE 4 / / 80
SCALE 1 80 000
TYPE B-W
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SCALE
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BAY

U.S

WETLAND LEGEND

U — Primarily represents **upland** areas, but may include unclassified wetlands such as man-modified areas, non photo-identifiable areas and/or unintentional omissions.

ECOLOGICAL SYSTEM

E — ESTUARINE

Ecological Subsystem: 1 — Subtidal; 2 — Intertidal

CLASS: RB ROCK BOTTOM; UB UNCONSOLIDATED BOTTOM; AB AQUATIC BED; RF REEF; FL FLAT; SB STREAMBED; RS ROCKY SHORE; BB BEACH/BAR; EM EMERGENT; SS SCRUB/SHRUB; FO FORESTED; OW OPEN WATER/Unknown Bottom

Subclass: 1 Bedrock; 2 Rubble; 3 Cobble/Gravel; 4 Sand; 5 Mud; 6 Organic; 7 Vegetated Pioneer; 8 Vegetated Non pioneer; 1 Persistent; 2 Nonpersistent; 3 Narrow leaved Nonpersistent; 4 Broad leaved Nonpersistent; 5 Narrow leaved Persistent; 6 Broad leaved Persistent; 1 Broad leaved Deciduous; 2 Needle leaved Deciduous; 3 Broad leaved Evergreen; 4 Needle leaved Evergreen; 5 Dead; 6 Deciduous; 7 Evergreen; 1 Submergent Algal; 2 Submergent Vascular; 3 Submergent Moss; 4 Floating leaved; 5 Floating; 6 Unknown Submergent; 7 Unknown Surface; 1 Moss; 2 Lichen; 1 Mollusc; 2 Worm; 1 Coral

P — PALUSTRINE

No Subsystem

CLASS: RB ROCK BOTTOM; UB UNCONSOLIDATED BOTTOM; AB AQUATIC BED; FL FLAT; ML MOSS/LICHEN; EM EMERGENT; SS SCRUB/SHRUB; FO FORESTED; OW OPEN WATER/Unknown Bottom

Subclass: 1 Bedrock; 2 Rubble; 1 Cobble/Gravel; 2 Sand; 3 Mud; 4 Organic; 1 Submergent Algal; 2 Submergent Vascular; 3 Submergent Moss; 4 Floating leaved; 5 Floating; 6 Unknown Submergent; 7 Unknown Surface; 1 Cobble/Gravel; 2 Sand; 3 Mud; 4 Organic; 5 Vegetated Pioneer; 6 Vegetated Non pioneer; 1 Moss; 2 Lichen; 1 Persistent; 2 Nonpersistent; 3 Narrow leaved Nonpersistent; 4 Broad leaved Nonpersistent; 5 Narrow leaved Persistent; 6 Broad leaved Persistent; 1 Broad leaved Deciduous; 2 Needle leaved Deciduous; 3 Broad leaved Evergreen; 4 Needle leaved Evergreen; 5 Dead; 6 Deciduous; 7 Evergreen

R — RIVERINE

Ecological Subsystem: 1 — Tidal; 2 — Lower Perennial; 3 — Upper Perennial; 4 — Intermittent; 5 — Unknown Perennial

CLASS: EM EMERGENT(1); RB ROCK BOTTOM; UB UNCONSOLIDATED BOTTOM; AB AQUATIC BED; FL FLAT; SB STREAMBED; RS ROCKY SHORE; BB BEACH/BAR; OW OPEN WATER/Unknown Bottom

Subclass: 1 Nonpersistent; 3 Narrow leaved Nonpersistent; 4 Broad leaved Nonpersistent; 1 Bedrock; 2 Rubble; 1 Cobble/Gravel; 2 Sand; 3 Mud; 4 Organic; 1 Submergent Algal; 2 Submergent Vascular; 3 Submergent Moss; 4 Floating leaved; 5 Floating; 6 Unknown Submergent; 7 Unknown Surface; 1 Cobble/Gravel; 2 Sand; 3 Mud; 4 Organic; 5 Vegetated Pioneer; 6 Vegetated Non pioneer; 1 Cobble/Gravel; 2 Sand; 3 Mud; 4 Organic; 1 Bedrock; 2 Rubble; Cobble/Gravel; Sand

(1) EM — EMERGENTS are only found in the Riverine Tidal and Riverine Lower Perennial Ecological Subsystem. All other classes are found in all Riverine Ecological Subsystems

M — MARINE

Ecological Subsystem: 1 — Subtidal; 2 — Intertidal

CLASS: RB ROCK BOTTOM; UB UNCONSOLIDATED BOTTOM; AB AQUATIC BED; RF REEF; OW OPEN WATER/Unknown Bottom; RS ROCKY SHORE; BB BEACH/BAR

Subclass: 1 Bedrock; 2 Rubble; 1 Cobble/Gravel; 2 Sand; 3 Mud; 4 Organic; 1 Submergent Algal; 2 Submergent Vascular; 3 Submergent Moss; 4 Floating leaved; 5 Floating; 6 Unknown Submergent; 7 Unknown Surface; 1 Coral; 3 Worm; 1 Cobble/Gravel; 2 Sand; 3 Mud; 4 Organic; 5 Vegetated Pioneer; 6 Vegetated Non pioneer; 1 Bedrock; 2 Boulder; 1 Cobble/Gravel; 2 Sand

L — LACUSTRINE

Ecological Subsystem: 1 — Limnetic; 2 — Littoral

CLASS: RB ROCK BOTTOM; UB UNCONSOLIDATED BOTTOM; AB AQUATIC BED; FL FLAT; RS ROCKY SHORE; BB BEACH/BAR; EM EMERGENT; OW OPEN WATER/Unknown Bottom

Subclass: 1 Bedrock; 2 Rubble; 1 Cobble/Gravel; 2 Sand; 3 Mud; 4 Organic; 1 Submergent Algal; 2 Submergent Vascular; 3 Submergent Moss; 4 Floating leaved; 5 Floating; 6 Unknown Submergent; 7 Unknown Surface; 1 Cobble/Gravel; 2 Sand; 3 Mud; 4 Organic; 5 Vegetated Pioneer; 6 Vegetated Non pioneer; 1 Bedrock; 2 Boulder; 1 Cobble/Gravel; 2 Sand; 1 Nonpersistent; 3 Narrow leaved Nonpersistent; 4 Broad leaved Nonpersistent

MODIFYING TERMS

In order to more adequately describe wetland and aquatic habitats one or more of the water regime, water chemistry, soil or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

WATER REGIME(1)										WATER CHEMISTRY				SOIL		SPECIAL MODIFIERS			
Non-Tidal					Tidal					Coastal Salinity	Inland Salinity	pH Modifiers for all Fresh Water							
A Temporary	H Permanent			K Artificial	S Subtidal					1 Hypersaline	7 Hypersaline	a Acid		b Organic		b Beaver	h Ditched/Impounded		
B Saturated	J Intermittently Flooded			L Subtidal	T Irregular Tidal					2 Eusaline	8 Eusaline	c Circumneutral		c Mineral		d Partially Drained/Ditched	i Artificial		
C Seasonal	K Artificial			M Irregularly Exposed	U Temporary Tidal					3 Mixohaline (Brackish)	9 Mixohaline	i Alkaline				f Farmed	s Spoil		
D Nontidal Well drained	L Subtidal			N Regular	V Seasonal Tidal					4 Polyhaline	0 Fresh						x Excavated		
E Seasonal Saturated	W Intermittently Flooded/Temporary			P Irregular	W Temporary Tidal					5 Mesohaline									
F Semipermanent	Y Saturated/Semipermanent/Seasonal									6 Oligohaline									
G Intermittently Exposed	U Unknown									0 Fresh									

(1) Information on the water regime modifiers found on this legend, but not found in the classification system, may be obtained from the above listed source.

WESTON MANAGERS DESIGNERS CONSULTANTS	FIFTEEN-MILE SURFACE WATER PATHWAY MAP
SITE NAME: COMMERCIAL ENVELOPE MFG. CO., INC. DEER PARK, NY	
DATE: 11 MAY 1994	SCALE: 1" = 2,000'
USGS QUAD: GREENLAWN, NY	

927

NATIONAL WETLANDS INVENTORY

UNITED STATES DEPARTMENT OF THE INTERIOR

APPROXIMATE 15 MILE SURFACE WATER MIGRATION PATHWAY LIMIT

APPROXIMATE 15 MILE SURFACE WATER MIGRATION PATHWAY LIMIT

SPECIAL NOTE

This document was prepared primarily by stereoscopic analysis of high altitude aerial photographs. Wetlands were identified on the photographs based on vegetation, visible hydrology, and geography in accordance with **Classification of Wetlands and Deep-Water Habitats of the United States** (An Operational Draft), Cowardin, et al, 1977. The aerial photographs typically reflect conditions during the specific year and season when they were taken. In addition, there is a margin of error inherent in the use of the aerial photographs. Thus, a detailed on the ground and historical analysis of a single site may result in a revision of the wetland boundaries established through photographic interpretation. In addition, some small wetlands and those obscured by dense forest cover may not be included on this document.

Federal, State and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, State or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, State or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

SYMBOLOGY EXAMPLE

WETLAND LEGEND

U – Primarily represents **upland areas**, but may include unclassified wetlands such as man-modified areas, non photo-identifiable areas and/or unintentional omissions.

REFERENCE NO. 16

WESTON

PROJECT NOTE

TO: Commercial Envelope Mfg. Co., Inc. file

DATE: 24 June 1994

FROM: D.D. Miosavage

W.O. NO.: 04200-022-081-00016-02

SUBJECT: Surface water pathway information.

Sampawams Creek has been designated as a Class C fresh surface water body from Montauk Highway to the source by the NYSDEC, for fish propagation and survival. The NYSDEC has designated Sampawams Creek from Montauk Highway to its mouth as a Class I saline surface water body also for fish propagation and survival. The NYSDEC has designated Great South Bay and portions of the Atlantic Ocean as Class SA saline surface waters (again) for fish propagation and survival. Class SA waters are used for commercial shellfishing [See Attachment A]

The average discharge (flow) rate Sampawams Creek, measured 0.6 miles upstream from the mouth is 9.63 cubic feet per second [See Attachment B]

Sampawams Creek becomes brackish below Route 27. Residents fish from the fresh water portion of the creek; species include bass, bluegill and pumpkinseed. Sampawams Creek may be stocked with trout [See Attachment C]

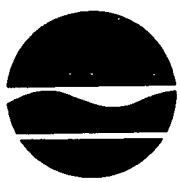
Great South Bay and the Atlantic Ocean are commercial fisheries. Fire Island Inlet and South Oyster Bay are recreational fisheries. Species present in these waters include summer and winter flounder, fluke, squid and scallop. [Attachment D]

ATTACHMENT A

WATER QUALITY REGULATIONS

SURFACE WATER AND GROUNDWATER CLASSIFICATIONS AND STANDARDS

New York State
Codes, Rules and Regulations
Title 6, Chapter X
Parts 700-705



New York State Department of Environmental Conservation

PART 701

CLASSIFICATIONS–SURFACE WATERS AND GROUNDWATERS

(Statutory authority: Environmental Conservation Law, §§ 3-0301[2][m], 15-0313, 17-0301, 17-0303, 17-0809)

Sec.		Sec.	
701.1	General conditions applying to all water classifications		SALINE SURFACE WATERS
	FRESH SURFACE WATERS	701.10	Class SA saline surface waters
701.2	Class N fresh surface waters	701.11	Class SB saline surface waters
701.3	Class AA-Special (AA-S) fresh surface waters	701.12	Class SC saline surface waters
		701.13	Class I saline surface waters
701.4	Class A-Special (A-S) fresh surface waters	701.14	Class SD saline surface waters
			GROUNDWATERS
701.5	Class AA fresh surface waters	701.15	Class GA fresh groundwaters
701.6	Class A fresh surface waters	701.16	Class GSA saline groundwaters
701.7	Class B fresh surface waters	701.17	Class GSB saline groundwaters
701.8	Class C fresh surface waters	701.18	Assignment of groundwater classifications
701.9	Class D fresh surface waters	701.19	Severability

Historical Note

Part repealed, new filed: April 28, 1972; Feb. 25, 1974; repealed new (§§ 701.1-701.19) filed Aug. 2, 1991 eff. 30 days after filing.

Section 701.1 General conditions applying to all water classifications. The discharge of sewage, industrial waste or other wastes shall not cause impairment of the best usages of the receiving water as specified by the water classifications at the location of discharge and at other locations that may be affected by such discharge.

Historical Note

Sec. repealed, new filed April 28, 1972; amds. filed: Nov. 5, 1984; July 3, 1985; repealed, new filed Aug. 2, 1991 eff. 30 days after filing.

FRESH SURFACE WATERS

701.2 Class N fresh surface waters. (a) The best usages of Class N waters are the enjoyment of water in its natural condition and, where compatible, as a source of water for drinking or culinary purposes, bathing, fishing, fish propagation, and recreation.

(b) There shall be no discharge of sewage, industrial wastes, or other wastes, waste effluents or any sewage effluents not having had filtration resulting from at least 200 feet of lateral travel through unconsolidated earth. A greater distance may be required if inspection shows that, due to peculiar geologic conditions, this distance is inadequate to protect the water from pollution.

(c) These waters shall contain no deleterious substances, hydrocarbons or substances that would contribute to eutrophication, nor shall they receive surface runoff containing any such substance.

Historical Note

Sec. repealed, new filed: April 28, 1972; Feb. 25, 1974; amd. filed July 3, 1985; repealed, new filed Aug. 2, 1991 eff. 30 days after filing.

701.3 Class AA-Special (AA-S) fresh surface waters. (a) The best usages of Class AA-S waters are: a source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation; and fishing. The waters shall be suitable for fish propagation and survival.

701.7 Class B fresh surface waters. The best usages of Class B waters are primary and secondary contact recreation and fishing. These waters shall be suitable for fish propagation and survival.

Historical Note
Sec. filed July 3, 1985; repealed, new filed Aug. 2, 1991 eff. 30 days after filing.

701.8 Class C fresh surface waters. The best usage of Class C waters is fishing. These waters shall be suitable for fish propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.

Historical Note
Sec. filed July 3, 1985; repealed, new filed Aug. 2, 1991 eff. 30 days after filing.

701.9 Class D fresh surface waters. The best usage of Class D waters is fishing. Due to such natural conditions as intermittency of flow, water conditions not conducive to propagation of game fishery, or stream bed conditions, the waters will not support fish propagation. These waters shall be suitable for fish survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.

Historical Note
Sec. filed July 3, 1985; repealed, new filed Aug. 2, 1991 eff. 30 days after filing.

SALINE SURFACE WATERS

701.10 Class SA saline surface waters. The best usages of Class SA waters are shellfishing for market purposes, primary and secondary contact recreation and fishing. These waters shall be suitable for fish propagation and survival.

Historical Note
Sec. filed July 3, 1985; repealed, new filed Aug. 2, 1991 eff. 30 days after filing.

701.11 Class SB saline surface waters. The best usages of Class SB waters are primary and secondary contact recreation and fishing. These waters shall be suitable for fish propagation and survival.

Historical Note
Sec. filed July 3, 1985; repealed, new filed Aug. 2, 1991 eff. 30 days after filing.

701.12 Class SC saline surface waters. The best usage of Class SC waters is fishing. These waters shall be suitable for fish propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.

Historical Note
Sec. filed July 3, 1985; repealed, new filed Aug. 2, 1991 eff. 30 days after filing.

701.13 Class I saline surface waters. The best usages of Class I waters are secondary contact recreation and fishing. These waters shall be suitable for fish propagation and survival.

Historical Note
Sec. filed July 3, 1985; repealed, new filed Aug. 2, 1991 eff. 30 days after filing.

PART 925

WESTERN SUFFOLK COUNTY WATERS

(Statutory authority: Environmental Conservation Law, § 17-0301)

Sec.
925.1 Adopting order
925.2 Designated waters
925.3 Definitions and conditions
925.4 Special conditions
925.5 Assigned classifications and standards of quality and purity
925.6 Table I
925.7 Map 1
925.8 Map 2
925.9 Quadrangle maps

Historical Note

Part (§§ 925.1-925.9) amd. filed June 20, 1988 eff. 30 days after filing. Amended statutory authority.

Section 925.1 Adopting order. (a) Pursuant to article 12 of the Public Health Law, the Water Resources Commission, after proper study and following public hearings conducted by the commission, held on due notice, hereby adopts and assigns the following classifications and standards of quality and purity to all surface waters within the designated drainage basin of western Suffolk County as hereinafter described.

(b) This adoption and assignment of standards of quality and purity to the above designated waters shall be effective September 22, 1965.

925.2 Designated waters. The Western Suffolk County Waters drainage basin shall be deemed to include the following:

(a) All land and surface areas within Suffolk County, State of New York, lying east of the Nassau County - Suffolk County boundary line and within the topographical limit lines shown on the reproduced reference maps herein. The easterly limit line of this basin is coterminous with the westerly limit line of Great South Bay (easterly section) drainage basin.

(b) All of the Western Suffolk County Waters as defined in Table I included herein.

Historical Note

Sec. amd. filed June 20, 1988 eff. 30 days after filing.

925.3 Definitions and conditions. The several terms, words or phrases hereinafter mentioned shall be construed as follows:

(a) *Item No.* In Table I an item number is assigned consecutively to each specifically designated waters or portion thereof.

(b) *Waters index number* as appearing in Table I shall mean that number or abbreviation assigned to any designated waters or portion thereof for the purpose of identification.

(1) The numbering or index system used to identify specific waters of New York State was adapted from that used by the New York State Conservation Department in its biological survey series of reports on watersheds of the State. The primary waters of a drainage area, such as a river, large lake, bay or sound, is usually referred to by name or an abbreviation. Tributaries of primary river waters are consecutively numbered progressing upstream from the mouth. Tributaries of primary lake, bay or sound waters are consecutively numbered in clockwise order from a defined point, usually the outlet of the primary waters. Subtributaries are numbered as encountered along the tributary proceeding from its mouth to the source, and in like manner all of its other stream courses are so numbered. Ponds and lakes are numbered in the order they are encountered within the system. Tributaries of such lakes and ponds are

925.6 Table I.

TABLE I

CLASSIFICATIONS AND STANDARDS OF QUALITY AND PURITY ASSIGNED TO FRESH SURFACE WATERS AND TIDAL SALT WATERS OF WESTERN SUFFOLK COUNTY, NEW YORK

Item No.	*Waters Index Number*	*Name*	*Description*	*Map Ref. No.*	*Class*	*Standards*
1	LIS	Long Island Sound	East from Nassau-Suffolk county line to a line running north from Miller Place Beach and north to the New York-Connecticut boundary.	R-26nw R-26ne R-27nw R-27ne	SA	SA
2	CSH	Cold Spring Harbor	Within Suffolk County including Inner Harbor.	R-26nw	SA	SA
3	CSH-50 portion	Trib. of Cold Spring Harbor	Mouth to trib. 1a within Suffolk County.	R-26sw	C	C(T)
4	CSH-50 portion	Trib. of Cold Spring Harbor	From trib. 1a to source.	R-26sw	C	C
5	CSH-50-P158, P 159	Subtribs. of Cold Spring Harbor	Within Suffolk County.	R-26sw	C	C(T)
6	CSH-P 200	Trib. of Cold Spring Harbor		R-26sw	C	C
7	CSH-51	Trib. of Cold Spring Harbor	Tidal portion.	R-26nw	I	I

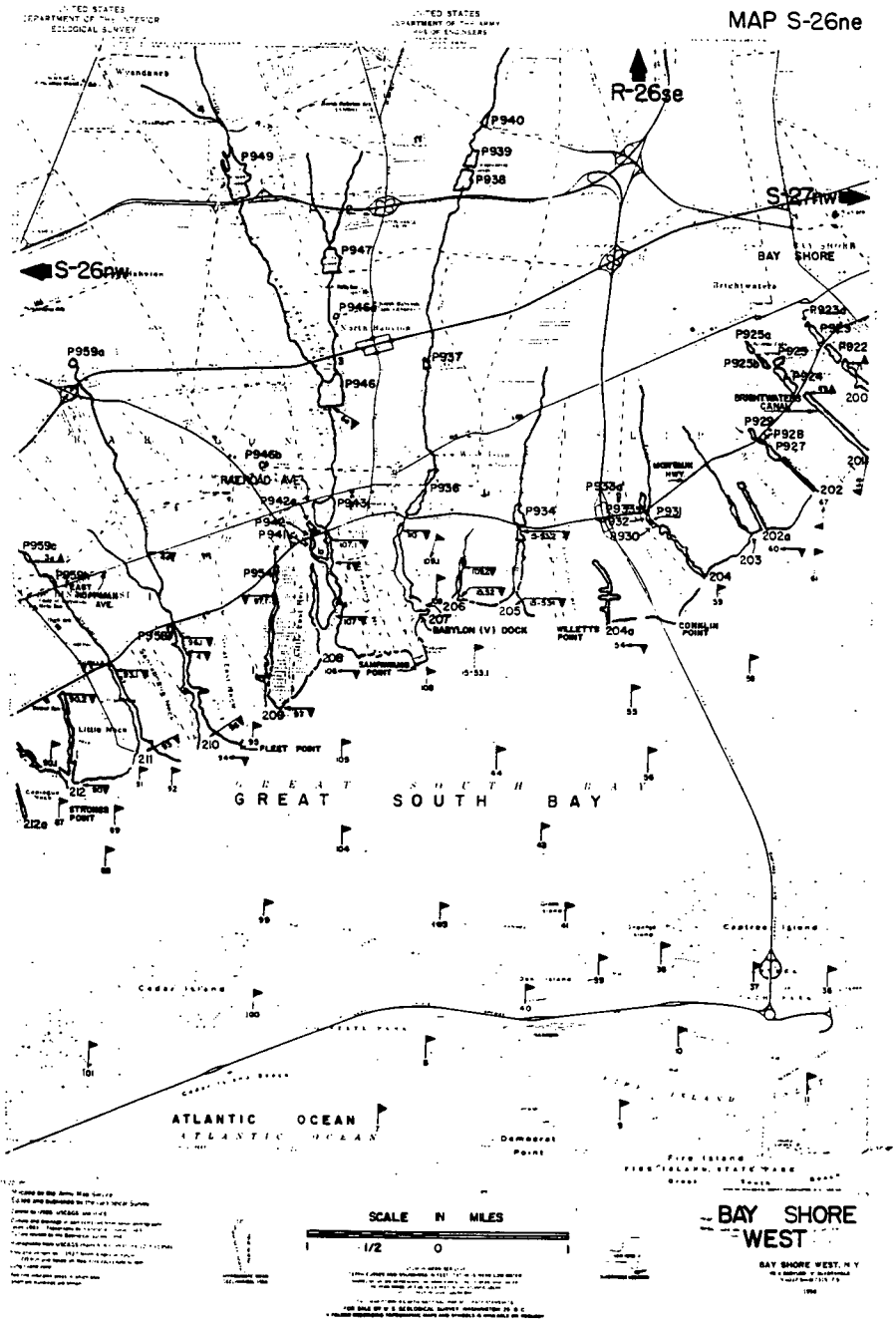
TABLE I (*cont'd*)

Item No.	*Waters Index Number*	*Name*	*Description*	*Map Ref. No.*	*Class*	*Standards*
76	LIS-PJH-CB-P 340a	Trib. of Conscience Bay		R-27ne	C	C
77	LIS-P 343	Unnamed pond		R-27ne	C	C
78	LIS-P 346, P 349	Unnamed ponds		R-27ne	C	C
79	LIS-MSH	Mount Sinai Harbor		R-27ne	SA	SA
80	LIS-MSH-67a	Trib. of Mount Sinai Harbor		R-27ne	C	C
81	AO	Atlantic Ocean	To three miles out, Nassau county line east to line running south of Blue Point and Water Island.	S-26sw S-26nw S-27nw S-27ne	SA	SA
82	GSB	Great South Bay	Excluding all adjacent creeks and canals.	S-26nw S-26ne S-27nw S-27ne	SA*	SA*
83	GSB-188a	Namkee Creek		S-27ne	SC	SC
84	GSB-188b	Herman's Creek		S-27ne	SC	SC

* All undesignated tidal tribs. to Interstate Sanitation Commission Class A waters within Interstate Sanitation District are classified "I." All undesignated tidal tribs. outside Interstate Sanitation District are classified "SD."

TABLE I (*cont'd*)

Item No.	*Waters Index Number*	*Name*	*Description*	*Map Ref. No.*	*Class*	*Standards*
139	GSB-203 portion	Thompsons Creek	From Montauk Highway to source.	S-26ne	C	C
140	GSB-204 portion	Trues Creek	From mouth to Montauk Highway.	S-26ne	I	I
141	GSB-204 portion including P 930, P 931, P 932	Trues Creek	From Montauk Highway to source.	S-26ne	C	C
142	GSB-P 933a	Unnamed pond		S-26ne	C	C
143	GSB-204a	Trib. of Great South Bay		S-26ne	I	I
144	GSB-205 portion	Willets Creek	From mouth to Montauk Highway.	S-26ne	I	I
145	GSB-205 portion	Willets Creek	From Montauk Highway to source.	S-26ne	C	C
146	GSB-205-P 934	Lake Capri		S-26ne	C	C
147	GSB-206	Skookwams Creek		S-26ne	I	I
148	GSB-207 portion	Sampawams Creek	From mouth to Montauk Highway.	S-26ne	I	I
149	GSB-207 portion	Sampawams Creek	From Montauk Highway to source.	S-26ne	C	C(T)
150	GSB-207-P 936	Trib. of Sampawams Creek		S-26ne	C	C
151	GSB-207-P 937, P 938, P 939	Tribs. of Sampawams Creek		S-26ne	C	C


MAP S-26ne
R-26se
S-27nw
S-26nw
BAY SHORE
GREAT SOUTH BAY
ATLANTIC OCEAN
SCALE IN MILES
1/2
0
BAY SHORE WEST

ATTACHMENT B

Water Resources Data New York

Water Year 1981

Volume 2. Long Island

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NY-81-2
Prepared in cooperation with the State of New York
and with other agencies

01308000 SAMPAWAMS CREEK AT BABYLON, NY

LOCATION.--Lat 40°42'15", long 73°18'52", Suffolk County, Hydrologic Unit 02030202, on left bank at upstream side of John Street Bridge in Babylon, 180 ft (55 m) downstream from Long Island Railroad, and 0.6 mi (1.0 km) upstream from mouth. Water-quality sampling site at discharge station.

DRAINAGE AREA.--About 23 mi² (60 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1944 to current year (monthly means estimated December 1966 to November 1967).

REVISED RECORDS.--WSP 1141: Drainage area: WSP 1702: 1955(M), 1956(M). WRD NY 1974: 1970(P).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 6.36 ft (1.939 m) National Geodetic Vertical Datum of 1929. October 1944 to December 1966, water-stage recorder at site 100 ft (30 m) east at datum 0.34 ft (0.104 m) higher.

REMARKS.--Records good except those for November, January, February, and July to September, which are fair. Flow regulated slightly by pumping operations at railroad and occasionally by ponds above station. Indeterminate effect caused by ground-water pumpage for water-supply purposes at Smith Street substation 0.2 mi (0.3 km) northwest of gage. Prior to November 1950, slight diurnal fluctuation caused by power operations.

AVERAGE DISCHARGE.--37 years, 9.63 ft³/s (0.273 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 136 ft³/s (3.85 m³/s) Sept. 12, 1960, gage height, 2.11 ft (0.643 m) datum then in use; maximum gage height, 3.28 ft (1.000 m) Feb. 7, 1971; minimum discharge, 1.6 ft³/s (0.045 m³/s) June 28, 1963, gage height, 0.13 ft (0.040 m) datum then in use.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 55 ft³/s (1.56 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 25	1230	63	1.78	1.41	0.43
Nov. 28	1130	85	2.41	1.97	.60
June 25	2100	70	1.98	1.56	0.48
Sept. 1	1015	a*113	3.20	*2.53	.77

a From rating extended above 80 ft³/s (2.27 m³/s).

Minimum discharge, 3.5 ft³/s (0.099 m³/s) Nov. 22, 23, minimum gage height, 0.22 ft (0.067 m) Oct. 22-24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	5.1	6.5	5.8	4.2	7.9	6.8	7.9	5.8	5.8	4.5	47
2	5.2	4.8	7.2	6.1	10	7.6	9.4	8.8	6.9	5.5	4.8	8.3
3	8.3	4.9	8.3	5.5	5.2	7.6	6.8	7.9	6.1	6.1	4.5	6.8
4	10	6.9	6.9	5.5	4.8	7.6	6.8	7.6	6.1	17	4.5	6.5
5	5.9	6.0	6.8	5.2	4.5	7.9	10	7.6	5.8	8.3	4.5	6.1
6	5.9	5.3	6.5	5.8	4.5	7.9	15	7.5	6.1	6.5	4.5	6.8
7	5.7	5.5	6.7	6.5	4.5	7.6	9.1	7.0	5.5	6.1	4.2	6.1
8	5.8	5.2	7.2	4.8	14	7.6	9.1	6.9	5.5	6.1	4.8	6.5
9	5.4	6.1	7.6	4.8	5.5	7.6	8.7	7.3	5.8	5.8	5.2	7.2
10	4.8	5.8	7.6	4.8	4.5	7.6	8.7	7.3	5.5	5.8	4.2	6.1
11	6.1	5.2	6.9	4.8	6.8	7.9	8.7	7.6	5.2	5.8	4.2	6.1
12	5.5	4.8	6.9	4.8	5.8	7.6	8.7	7.6	5.2	5.8	4.2	6.1
13	5.2	4.8	7.0	4.8	6.1	7.6	7.9	7.6	4.8	6.1	4.2	5.8
14	4.8	4.5	6.6	5.2	5.8	7.2	12	7.2	5.2	5.8	4.2	5.8
15	4.8	4.2	6.4	5.2	5.8	7.2	9.0	7.2	5.5	5.8	4.5	18
16	4.8	4.2	6.8	4.8	5.8	7.6	8.7	7.9	5.2	5.8	5.2	22
17	4.8	4.2	6.5	5.2	5.8	7.2	8.7	6.8	4.8	5.8	4.5	8.3
18	5.8	7.9	6.5	5.2	5.5	6.5	8.5	6.7	4.8	5.8	4.2	7.9
19	5.8	3.8	6.1	5.2	5.8	6.8	8.0	6.6	4.8	5.8	4.5	9.4
20	4.5	4.2	5.8	4.8	17	6.5	8.1	6.6	9.8	8.3	4.5	7.6
21	4.5	4.2	5.8	4.8	7.9	6.5	7.6	6.5	5.8	11	4.8	7.2
22	4.4	3.8	5.8	5.2	7.2	6.1	7.6	6.4	5.8	7.6	4.5	7.6
23	4.2	3.8	7.6	5.2	7.2	6.5	8.3	6.3	5.2	5.8	4.5	7.6
24	4.5	7.6	7.6	5.2	12	6.5	11	6.1	4.8	5.8	4.5	6.8
25	18	11	5.8	5.2	7.6	6.1	8.2	6.2	21	5.5	4.5	6.5
26	5.8	4.2	5.5	5.2	9.1	6.1	7.9	6.1	9.4	5.5	4.5	6.5
27	5.1	4.5	5.5	5.5	7.6	6.8	7.9	6.1	6.1	5.5	4.8	6.5
28	5.6	25	5.5	4.8	8.7	6.1	7.9	6.1	5.8	4.8	5.8	8.7
29	5.0	6.1	5.8	4.5	---	6.5	9.0	7.7	5.8	9.4	4.8	6.1
30	5.0	6.1	5.8	4.5	---	8.7	8.0	6.2	5.5	4.8	5.2	6.1
31	5.3	---	5.5	4.2	---	6.8	---	6.4	---	4.5	9.8	---
TOTAL	182.3	179.7	203.0	159.1	199.2	221.7	262.1	217.7	189.6	204.0	147.6	274.0
MEAN	5.88	5.99	6.55	5.13	7.11	7.15	8.74	7.02	6.32	6.58	4.76	9.13
MAX	18	25	8.3	6.5	17	8.7	15	8.8	21	17	9.8	47
MIN	4.2	3.8	5.5	4.2	4.2	6.1	6.8	6.1	4.8	4.5	4.2	5.8

CAL YR 1980 TOTAL 3637.4 MEAN 9.94 MAX 51 MIN 3.8
WTR YR 1981 TOTAL 2440.0 MEAN 6.68 MAX 47 MIN 3.8

01308000 SAMPAWAMS CREEK AT BABYLON, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1966 to current year.

COOPERATION.--All water-quality samples were collected and analyzed by Suffolk County Department of Health Services.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
DEC 02...	1450	7.2	210	6.2	11.0	5.8	3.2	23	3.9
MAR 16...	1120	7.6	225	6.6	9.0	8.7	3.3	26	4.5
SEP 15...	1000	6.5	220	6.3	17.0	4.7	3.5	26	3.9

DATE	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
DEC 02...	32	26	27	--	2.6	2.60	.020	.021	2.00
MAR 16...	35	26	32	<.5	2.7	2.70	.014	.014	2.60
SEP 15...	26	26	31	<.5	4.0	4.00	.104	.101	.940

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
DEC 02...	2.00	2.20	2.3	.004	.006	1250	1000	1300	.08
MAR 16...	2.60	4.10	3.8	.010	.003	1600	1300	1600	.09
SEP 15...	.910	1.00	1.2	.008	.003	450	340	900	.05

Discharge measurements made at low-flow partial-record stations during water year 1981--Continued

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Measurements Date	Measurements Discharge (ft^3/s)
		Streams on Long Island				
01307100	Champlin Creek at Montauk Highway, at Islip, N.Y.	Lat 40°43'50", long 73°12'12", Suffolk County, at Montauk Highway, at Islip, and 0.45 mi (0.72 km) downstream from gaging station at Islip.	--	1963 1967 1973 1975-81	11-17-80 3-10-81 6- 9-81 8-27-81	3.6 4.3 5.2 1.5
01307300	Pardees Ponds Outlet at Islip, N.Y.	Lat 40°43'40", long 73°13'16", Suffolk County, at culvert on State Highway 27A, at Islip.	--	1948-72 1974-81	11- 3-80 6-11-81 8-28-81	4.1 2.8 2.5
01307400	Awixa Creek at Islip, N.Y.	Lat 40°43'39", long 73°13'51", Suffolk County, at culvert on State Highway 27A, 0.75 mi (1.21 km) west of Islip.	--	1948-81	11-24-80 3-13-81 8-27-81	.50 1.3 .98
01307500c/	Penataquit Creek at Bay Shore, N.Y.	Lat 40°43'37", long 73°14'41", Suffolk County, at Union Avenue, at Bayshore.	--	1945-76‡ 1977-81	10- 6-80 11- 5-80 12- 3-80 1- 8-81 2- 5-81 3-10-81 4-10-81 5-11-81 6- 9-81 9-11-81	4.3 3.2 5.2 3.4 2.5 5.1 5.4 6.2 5.1 6.7
01307600	Cascade Lakes Outlet at Brightwaters, N.Y.	Lat 40°42'40", long 73°15'38", Suffolk County, at culvert on Montauk Highway, at Brightwaters.	--	1958-81	11- 3-80 3-13-81 6-11-81 8-27-81	.84 2.6 1.0 .15
01307920	Sampawams Creek near Deer Park, N.Y.	Lat 40°44'27", long 73°18'24", Suffolk County, 30 ft (9 m) downstream from Bay Shore Road, and 2.5 mi (4.0 km) upstream from gaging station at Babylon.	--	1965-66 1973-81	5-28-81 8-28-81	1.1 .36
01307950	Sampawams Creek near North Babylon, N.Y.	Lat 40°43'37", long 73°18'46", Suffolk County, 120 ft (37 m) downstream from Hunter Avenue, and 1.6 mi (2.6 km) upstream from gaging station at Babylon.	--	1967 1971-81	5-28-81 8-28-81	1.2 .90
01308200	Sampawams Creek below Hawleys Lake, at Babylon, N.Y.	Lat 40°41'48", long 73°19'04", Suffolk County at pond outlet, 200 ft (61 m) upstream from State Highway 27A, at Babylon, and 0.5 mi (0.8 km) downstream from gaging station at Babylon.	--	1953-67 1969-81	11- 4-80 5-28-81 8-28-81	4.5 5.8 4.2
01308600	Carlls River at Park Avenue, Babylon, N.Y.	Lat 40°42'06", long 73°19'43", Suffolk County, at culvert on Park Avenue, at Babylon, and 0.5 mi (0.8 km) downstream from gaging station at Babylon.	--	1968-81	11- 4-80 6-11-81 8-27-81	22 16 20
01309000c/	Santapogue Creek at Lindenhurst, N.Y.	Lat 40°41'30", long 73°21'20", Suffolk County, at culvert on East Hoffman Avenue, 1 mi (2 km) east of Long Island Railroad station at Lindenhurst.	--	1947-69‡ 1970-81	10- 6-80 11- 3-80 12- 1-80 1- 8-81 2- 5-81 3-10-81 4-10-81 5-11-81 8-27-81 9-11-81	.28 .40 2.3 1.5 1.1 3.0 2.4 2.3 .26 1.1
01309100	Santapogue Creek at State Highway 27A, Lindenhurst, N.Y.	Lat 40°41'02", long 73°21'06", Suffolk County, at culvert on State Highway 27A, 0.5 mi (0.8 km) downstream from gaging station at Lindenhurst.	--	1953-69 1971-81	11- 3-80 3-10-81 8-27-81	4.8 9.0 6.0

‡ Operated as a continuous-record gaging station.
c/ Water-quality data included in this report.

WESTON

ATTACHMENT C

John F. Fix
Originator

PHONE CONVERSATION RECORD

Conversation with:
Name Gregory Kozlowski
Company NYSDEC - Stony Brook - Fisheries
Address _____
_____
Phone (516) 444-0280

Date 6/17/94
Time 11:45 (AM)/PM

☒ Originator Placed Call
☐ Originator Received Call
W.O. NO. 04200-022-081-0006

Subject Fishery Information for the surface water pathway of the Commercial Envelopes site.

Notes: Greg Kozlowski (GK) stated that he would only be able to provide information on the freshwater portion of the surface water migration pathway, which is the upper portion of Sampawams Creek. GK said that a few years ago the headwaters of Sampawams Creek were stocked with brook trout, but he is not sure whether this practice is continued today. He said that Hawley's Lake, which is between Route 27 and Union Ave (North of Rte 27), contains bass, blue gill and pumpkin seed communities. He stated that local residents fish in the creek. GK said that south of Hawley's Lake the creek becomes brackish. He gave me the phone number for the NYSDEC Marine Division to provide me with information concerning the brackish waters along the surface water pathway. The number is 516-444-0280.

☐ File _____
☐ Tickle File ____/____/____
☐ Follow-Up By: _____
☐ Copy/Route To: _____
_____

Follow-Up-Action: _____
_____
_____
_____

Originator's Initials JF

DEM 110-1-82

ATTACHMENT 3

John Fix
Originator

PHONE CONVERSATION RECORD

Conversation with:

Name Sherry Aicher

Company NYS DEC - Region I - Fisheries

Address _____

_____

Phone 516-444-0280

Date 6 / 20 / 94

Time 2:30 AM/(PM)

☐ Originator Placed Call

☒ Originator Received Call

W.O. NO. 04200-92-081-0006

Subject Fishery information for Great South Bay, Fire Island Inlet, South Oyster Bay and the Atlantic Ocean

Notes: Sherry Aicher (SA) told me that both the Great South Bay and the Atlantic Ocean are used to supply commercial fisheries. SA stated that Fire Island Inlet and South Oyster Bay are used as recreational fisheries. She said that some of the species present in these waters are summer and winter flounder, fluke, squid and scallop.

☐ **File** _____

☐ **Tickle File** ____/____/____

☐ **Follow-Up By:** _____

☐ **Copy/Route To:** _____

_____

Follow-Up-Action: _____

_____

_____

_____

Originator's Initials JF

REV 110 4 92

REFERENCE NO. 17

FROST ASSOCIATES

P.O. Box 495, Essex, Connecticut 06426
(203) 767-7644 Fax (203) 767-7069

Apr 22, 1994

To: Jan Holderness
Roy F. Weston Inc
4th Floor Raritan Plaza
Edison, New Jersey 08837-3616

Fr: Bob Frost
Frost Associates
P.O. Box 495
Essex, Conn 06426

Tel: (203) 767-1254
Fax: (203) 767-7069

Sub: Commercial Envelope Mfg Co
Deer Park, Suffolk Cty, NY

CERCLIS: NYD981184138

Job: 04200-022-081-0006-02

Site Longitude: 73-18-14 73.303886
Site Latitude : 40-45-38 40.760559

The CENTRACTS report below identifies the population, households, and private water wells of each Block Group that lies within, or partially within, the 4, 3, 2, 1, .5, and .25, mile "rings" of the latitude and longitude coordinates above. CENTRACTS may have up to ten radii of any length. 1000 block groups, and 15000 block group sides.

CENTRACTS uses the 1990 Block Group population and Block Group house count data found on the Census Bureau's 1990 STF-1A files. The sources of water supply data are from the Bureau's 1990 STF-3A files. The boundary line coordinates of the Block Groups were extracted from the Census Bureau's 1990 TIGER/Line Files.

CENTRACTS reports are created with programs written by Frost Associates, P.O. Box 495, Essex, Conn. The code was written using Microsoft's Quick-Basic Ver. 4.5.

Latitude and Longitude coordinates identifying a site are entered in degrees and decimal degrees. One or more county files holding Block Group boundary lines are selected for use by CENTRACTS by determining whether the site coordinates fall within the minimum and maximum Lat\Lon coordinates of each county in the state.

Each Block Group line segment has Lat\Lon coordinates representing the "From" and "To" ends of that line. All coordinates from the selected county files are read and converted from degrees, decimal degrees to X\Y miles from the site location. Each line segment is then examined whether it lies within or partially within the maximum ring from the site.

The unique Block Group ID numbers of each line segment that lie within the maximum ring are retained. All Block Group boundary lines matching the Block Group numbers are then extracted from the respective county files to obtain all sides of the included Block Groups. Boundary records are then sorted in adjacent side order to determine the shape and area of each Block Group polygon.

A method to solve for the area of a polygon is to take one-half the sum of the pro

ducts obtained by multiplying each X-coordinate by the difference between the adja cent Y-coordinates. For a polygon with coordinates at adjacent angles A, B, C, D, and . The formula can be expressed:

Area = 1/2{Xa(Ye-Yb)+ Xb(Ya-Yb)+ Xc(Yb-Yd)+ Xd(Yc-Ye)+ Xe(Yd-Ya)}

or each ring, the selected Block Groups will be inside, outside, or intersected by he ring. When a polygon is intersected, the partial Block Group area within that ring is calculated using the method described below.

hen a ring intersects a Block Group, the intersect points are solved and plotted at he points where the ring enters and exits the shape. The chord line, a line within the circle connecting the intersect points is determined. This chord line is used to alculate the segment area, the half moon shape between the chord line and the ring, nd the sub-polygon created by the chord line and the Block Group boundaries that lie outside the ring.

he segment area is subtracted from the sub-polygon area to determine the area of the ub-polygon outside the ring. The area outside the ring is then subtracted from the area of the entire polygon to arrive at the inside area. This inside area is then ivided by the tract's total area to determine the percentage of area within the ing. This process is repeated for each block group that is intersected by one of the rings. The total area, partial area, and percentage of partial area of those block groups within, or partially within a ring, are held in memory for the report.

n occasion, the algorithm described above is unable to determine the area of the partial area. Within the report program is a "Paint" routine which allows an enclosed shape to be highlighted. Another routine calculates the percentage of highlighted creen pixels to the pixels within the polygon. A manual entry is allowed. Both the paint" method and manual entry method over ride the calculated method.

CENTRACTS lists, starting on page 4, all Block Groups in State, County, Census Tract, nd Block Group ID order that lie within, or partially within, the maximum ring. Each lock Group is identified by a City or Town name and by the Block Group's State, County, Tract and Block Group ID number. Following is the Block Group's 1990 populu ion and house count extracted from the Census Bureau's 1990 STF-1A files.

he next four columns display water source data from the 1990 STF-3A files. The first column is "Units with Public system or private company source of water", followed by Units with individual well, Drilled, source of water"; "Units with individual well, ug, source of water" and "Units with Other source of water".

For each ring, CENTRACTS then shows the Block Groups that are within that ring, the lock Group's total area in square miles, the partial area of the Block Group within hat ring, and the partial percentage within the ring. The areas of the included Block Group and the partial areas are then totaled.

he last section tallies the demographic data within each ring. The percentage of rea for each Block Group is multiplied times the census data for that Block Group and totaled for all Block Group's within the ring. Ring totals are then determined y subtracting the three mile data from the four mile, the two mile from the three ile, one from the two, etc... Population on private wells is calculated using the formula: ((Drilled + Dug Wells) / Households) * Population

[redacted]mmercial Envelope Mfg Co
Deer Park, Suffolk Cty, NY
NYD981184138

========== Site Data ==========

Population:	197875.09
Households:	59834.72
Drilled Wells:	100.86
Dug Wells:	498.54
Other Water Sources:	134.02

========== Partial (RING) data ==========

---- Within Ring: 4 Mile(s) and 3 Mile(s) ----

Population:	85990.41
Households:	26349.24
Drilled Wells:	51.98
Dug Wells:	238.31
Other Wells:	65.26

** Population On Private Wells: 947.35

---- Within Ring: 3 Mile(s) and 2 Mile(s) ----

Population:	61852.16
Households:	17610.90
Drilled Wells:	32.58
Dug Wells:	120.70
Other Wells:	20.57

** Population On Private Wells: 538.35

---- Within Ring: 2 Mile(s) and 1 Mile(s) ----

Population:	41253.31
Households:	12914.69
Drilled Wells:	8.73
Dug Wells:	74.04
Other Wells:	28.12

** Population On Private Wells: 264.40

---- Within Ring: 1 Mile(s) and .5 Mile(s) ----

Population:	7570.58
Households:	2447.79
Drilled Wells:	7.56
Dug Wells:	36.42
Other Wells:	11.66

** Population On Private Wells: 136.03

Commercial Envelope Mfg Co
Deer Park, Suffolk Cty, NY
NYD981184138

--- Within Ring: .5 Mile(s) and .25 Mile(s) ----

Population:	973.56
Households:	393.48
Drilled Wells:	0.00
Dug Wells:	20.97
Other Wells:	5.78

* Population On Private Wells: 51.87

--- Within Ring: .25 Mile(s) and 0 Mile(s) ----

Population:	235.08
Households:	118.61
Drilled Wells:	0.00
Dug Wells:	8.11
Other Wells:	2.63

* Population On Private Wells: 16.08

** Total Population On Private Wells: 1954.08

REFERENCE NO. 18

WESTON

PROJECT NOTE

TO: Commercial Envelope Mfg Co. Inc. file

DATE: 27 June 1994

FROM: D D Minsavage

W.O. NO.: 04200-022-081-0006-02

SUBJECT: Listed species habitats located within a 4-mile radius or 15-miles downstream of the site

---

The New York State Department of Environmental Conservation / National Heritage Program prepared a report identifying various sensitive environments located within the target distance limits of the site. This information in considered sensitive and not for public release; therefore, the locations of the sensitive environments were determined and are summarized, in general terms below. The original report is located in the "CONFIDENTIAL" file of the project folder.

AIR PATHWAY: Only plant habitats identified

0-1 mile: no habitats designated as sensitive environments identified.

1-2 miles: Habitats of 1 State-listed endangered species, 1 State-listed threatened speci and 1 species under review as to its Federal status.

2-3 miles: Habitats of 1 State-listed endangered species and 1 State-listed threatened spe

3-4 miles: Habitats of 2 federal-listed endangered species, 2 State-listed endangered species, and 2 State-listed threatened species

SURFACE WATER PATHWAY:

Habitats identified along coastal tidal waters located within 15 miles downstream from the site:

- Three State-listed endangered species (1 vertebrate and 2 plant)
- Two State-listed threatened species (1 vertebrate and 1 plant)

DCN: 4200-22-RCD

New York State Department of Environmental Conservation

Wildlife Resources Center - (518) 783-3932
Information Services
700 Troy-Schenectady Road
Latham, New York 12110-2400

Thomas C. Jorling
Commissioner

June 15, 1994

Richard M. Settino
Weston
Raritan Plaza 1, 4th floor,
Raritan Center
Edison, New Jersey 08837-2616

Dear Mr. Settino:

We have reviewed the New York Heritage Program files with respect to your recent request for biological information concerning your Hazardous Waste Investigation, USEPA Contract No. 68-W9-0022 covering 15 sites as listed in your letter of May 27, 1994. The enclosed printout covers the COMMERCIAL ENVELOPE SITE, as indicated on your map, located in Suffolk County, New York State.

Enclosed is a computer printout covering the area you requested to be reviewed by our staff. The information contained in this report is considered sensitive and may not be released to the public without permission from the New York Natural Heritage Program.

Our files are continually growing as new habitats and occurrences of rare species and communities are discovered. In most cases, site-specific or comprehensive surveys for plant and animal occurrences have not been conducted. For these reasons, we can only provide data which have been assembled from our files. We cannot provide a definitive statement on the presence or absence of species, habitats or natural communities. This information should not be sutstituted for on-site surveys that may be required for environmental assessment.

This response applies only to known occurrences of rare animals, plants and natural communities and/or significant wildlife habitats. You should contact our regional office, Division of Regulatory Affairs, at the address enclosed for information regarding any regulated areas or permits that may be required (e.g., regulated wetlands) under State Law.

If this proposed project is still active one year from now we recommend that you contact us again so that we can update this response.

Sincerely,

Nicholas B Conrad

Nicholas B. Conrad, Info. Data Asst.
NY Natural Heritage Program

Encs.
cc: Region 1, Wildlife Mgr.
Region 1, Fisheries Mgr.